The Amorium Project: The 1998 Excavation Season

C. S. LIGHTFOOT, E. A. IVISON, ET AL.

INTRODUCTION

1998 marked the tenth anniversary of the granting of the Amorium excavation permit by the president and government of the Republic of Turkey. The intention was to use the season to initiate a new program of excavation, conservation, and study, which would cover the next five years (1998–2002). At the same time there was a growing awareness that, although annual preliminary reports and numerous other short publications have been produced over the last ten years, efforts should now be directed toward completing the final reports on the work of the 1988–92 and 1993–97 pentads.[1] Generous grants from the Trustees for Harvard University (Dumbarton Oaks) and the British sponsors, the British Institute of

The work was sponsored by the British Institute of Archaeology at Ankara (BIAA) and received additional generous funding partly from Dumbarton Oaks and partly from the Friends of Amorium, among whom Cafer S. Okray, Richard and Marilyn Engle, and Robert Jewett are deserving of special mention. The project is grateful for the continued support of the Turkish authorities, especially the director and staff of the General Directorate of Monuments and Museums in Ankara, and for the help and advice provided by Cyril and Marlia Mango in Oxford. Special thanks must also go to Mr. Yusuf Ziya Çelikkaya (district governor, Emirdağ), Mr. İsmet Güler (mayor, Emirdağ), Mr. Seracettin Şahin and Mr. Ahmet Ilaslı (Afyon Archaeological Museum), Doç. Dr. Ebru Parman (University of Anatolia, Eskişehir), Dr. Hüseyin Tanrıkulu (mayor, Yukarı Piribeyli), Richard Ashton, Thomas Drew-Bear, and Stanley Ireland for their unstinting and generous support for the project. Visitors to the site during the summer included Hans Buchwald, Roger Matthews (director of the BIAA), and Klaus Rheidt, accompanied by other members of the Aizanoi excavation team. We were also very pleased to welcome Mr. and Mrs. C. Lightfoot, together with their granddaughter Sera and Mr. Ağah Öztaş and Dr. Didem Oskay, all of whom showed great interest in the progress of our work.

[1] For a complete bibliography to 1995, see *DOP* 51 (1997): 291 n. 1, with further references in *DOP* 52 (1998): 323 n. 1. Since 1998 the following reports have also been published: C. S. Lightfoot and Y. Mergen, "1996 Yılı Amorium Kazısı," in *XIX. Kazı Sonuçları Toplantısı. Ankara, 26–30 Mayıs 1996,* vol. 2 (Ankara, 1998), 343–66; C. S. Lightfoot et al., "The Amorium Project: The 1997 Study Season," *DOP* 53 (1999): 333–49; C. S. Lightfoot, "Amorium 1997," in *Anatolian Archaeology: Reports on Research Conducted in Turkey,* ed. G. Coulthard and S. Hill, vol. 3 (1997 [1998]), 6–7; C. S. Lightfoot, "Amorium Excavations Project 1997," *Bulletin of British Byzantine Studies* 24 (1998): 36–40; C. S. Lightfoot, "Amorium-Hisarcık'ın Selçuklu ve Osmanlı dönemlerine ait yerleşim ve arkeolojisi," *Ege Üniversitesi Sanat Tarihi Dergisi* 9 (1998): 75–84; C. S. Lightfoot, "The Survival of Cities in Byzantine Anatolia: The Case of Amorium," *Byzantion* 68 (1998): 56–71; C. S. Lightfoot, "Amorium and the Afyon Region in Byzantine Times," in *Ancient Anatolia: Fifty Years' Work by the British Institute of Archaeology at Ankara,* ed. R. Matthews (London, 1998), 301–14; C. S. Lightfoot, "Amorium 1998," in *Anatolian Archaeology: Reports on Research Conducted in Turkey,* ed. G. Coulthard, vol. 4 (1998 [1999]), 11–12; C. S. Lightfoot, "The Public and Domestic Architecture of a Thematic Capital: The Archaeological Evidence from Amorium," in Η Βυζαντινή Μικρά Ασία (Athens, 1998), 303–20; C. S. Lightfoot and O. Karagiorgou, "Byzantine Amorion: A Provincial Capital in Asia Minor," Αρχαιολογία 69 (December 1998): 92–96 (repr. with corrections in Αρχαιολογία 70 [March 1999]: 87–88); C. S. Lightfoot, "Amorium Excavations Project 1998," *Bulletin of British Byzantine Studies* 25 (1999): 43–48; C. S. Lightfoot and Y. Mergen, "İç Anadolu'da Önemli bir Ortaçağ Şehir: Amorium (An Early Mediaeval City in Central Anatolia)," *Arkeoloji ve Sanat Dergisi* 89 (March–April 1999): 22–31; C. S. Lightfoot and Y. Mergen, "1997 Yılı Amorium Çalışmaları," in *XX. Kazı Sonuçları Toplantısı, 25–29 Mayıs 1998–Tarsus,* vol. 2 (Ankara, 1999), 525–38; C. S. Lightfoot, "Byzantine Pots in Central Turkey Puzzle Excavators," *Minerva* 10.3 (May–June 1999): 7; C. S. Lightfoot, "Recent Discoveries at the Byzantine City of Amorium," *Minerva* 10.5 (September–October 1999): 16–19 (see also "News" on p. 6); S. Mitchell, "Archaeology in Asia Minor 1990–98," *Archaeological Reports for 1998–1999* (1999): 181–83; H. Buchwald, *Form, Style and Meaning in Byzantine Church Architecture* (Aldershot-Brookfield, Vt., 1999), § VIII: Retrofit—Hallmark of Byzantine Architecture?, 10 and figs. 10–11; C. S. Lightfoot and Y. Mergen, "1998 Yılı Amorium Kazıları," in *XXI. Kazı Sonuçları Toplantısı, Ankara, 24–28 Mayıs 1999* (Ankara, 2000), 143–52.

Archaeology at Ankara, enabled us to work toward both these objectives in 1998.

The eleventh season at Amorium produced some quite spectacular finds as well as important results that have a significant bearing on the interpretation of earlier work.[2] There were three excavation areas, all in the Lower City. Two of these (in the Lower City Church and in Trench LC immediately behind the city walls near the gateway in Trench AB) were limited in scope and were intended merely to clarify and complete the work carried out in earlier seasons (Fig. A). The third trench, however, represented a new initiative, aimed at investigating more thoroughly the interior of the enclosure. Part of the enclosure's defensive wall was excavated in 1996, while a geophysical survey of the area was undertaken in 1997.[3] The results from this earlier work can now be compared with the findings obtained from the excavations in Trench XC.

A major feature of the eleventh season at Amorium was the hard work put into conservation and site enhancement. Work started on the removal of the spoil heaps from Trenches TT and UU on the northern side of the Upper City mound, while all of the trenches were thoroughly cleaned and made presentable. However, the Lower City Church was again the principal focus of attention. This building, whose excavation began in 1990, has supplied a wealth of information about the archaeology of Amorium and has become the main site attraction.

The Lower City Church (by E.A. Ivison)

The impressive structure known as the Lower City Church stands near the center of the late antique–dark age city of Amorium. Excavations since 1990 have revealed a complex structure, initially built as an aisled basilica in the late fifth century (Phase I). Following its complete destruction by fire, probably during the sack of 838, this building was radically reconstructed as a domed basilica church (Phase II). Architectural and artistic criteria have placed this reconstruction in the latter part of the ninth or first half of the tenth century. Substantial remains of an ambitious decorative program have survived from this second church. This program included the commission of sculpted architectural and liturgical fittings, as well as a cycle of monumental wall paintings and vault mosaics. The most conspicuous feature of the present ruin is the elaborate *opus sectile* pavement that still covers 220 m^2 of the *bema* and *naos*.[4]

The 1998 campaign was directed toward completing the current program of excavation within the main body of the church (Fig. B). It was also hoped that state plans of the entire building as excavated to floor level, together with measured elevations of the standing structure, to the scale of 1:20 could be finished during the season. Although the discovery of a Byzantine tomb precluded the completion of plans for the narthex and north aisle, a complete plan of the marble *opus sectile* pavement in the *naos* and *bema* was created. A united state plan of the church is now almost a reality, revealing the full complexity and splendor of the building. Integral to this program of excavation and study has been an ongoing program of conservation of both the church's fabric and those frescoes that remain *in situ* (see section below). Thanks to the help and expertise of Dr. Hande Günyol and Gülseren Dikilitaş (of the

[2]The team comprised fifteen archaeologists, conservators, and students, of whom eight were Turkish, five British, one American, and one Israeli. Their names are Dr. Eric Ivison (assistant director, College of Staten Island, City University of New York); Yalçın Mergen, Cığır Ercan, Mücahide Koçak, and İrfan Yazıcı (University of Anatolia, Eskişehir); Dr. M. Ali Kaya (Süleyman Demirel University, İsparta), Dr. Hande Günyol, and Gülseren Dikilitaş (of the İstanbul Restorasyon ve Konservasyon Merkez Laboratuvarı); Yoav Arbel (University of California, San Diego); Sarah E. Lepinski (Bryn Mawr College, Pennsylvania); Betül Şahin (Ankara University); Robin Wiggs and Jessica Beattie (University of Warwick); and Dr. Margaret A. V. Gill. The team was joined by the government representative, Mrs. Jale Dedeoğlu of the Izmir Archaeological Museum, who kindly provided much advice, help, and support throughout the season. Finally, it is fitting to acknowledge the immense contribution made to the project by Dr. Margaret Gill. She has been a valued member of the team since 1989 and has prepared two very detailed and scholarly reports on the glass and small finds for the years 1988–97, as well as contributing several other shorter accounts of the material for the preliminary reports. She has now decided to retire in order to devote more time to her scholarly interests in the local and natural history of the Wye Valley. Her presence in future seasons will be sadly missed, not only by the team, but also by the workmen and villagers at Hisarköy.

[3]*DOP* 52 (1998): 327–28, figs. 9–15; *DOP* 53 (1999): 334–37, figs. B–F.

[4]*DOP* 51 (1997): 292–97, figs. A–C, and 1–7.

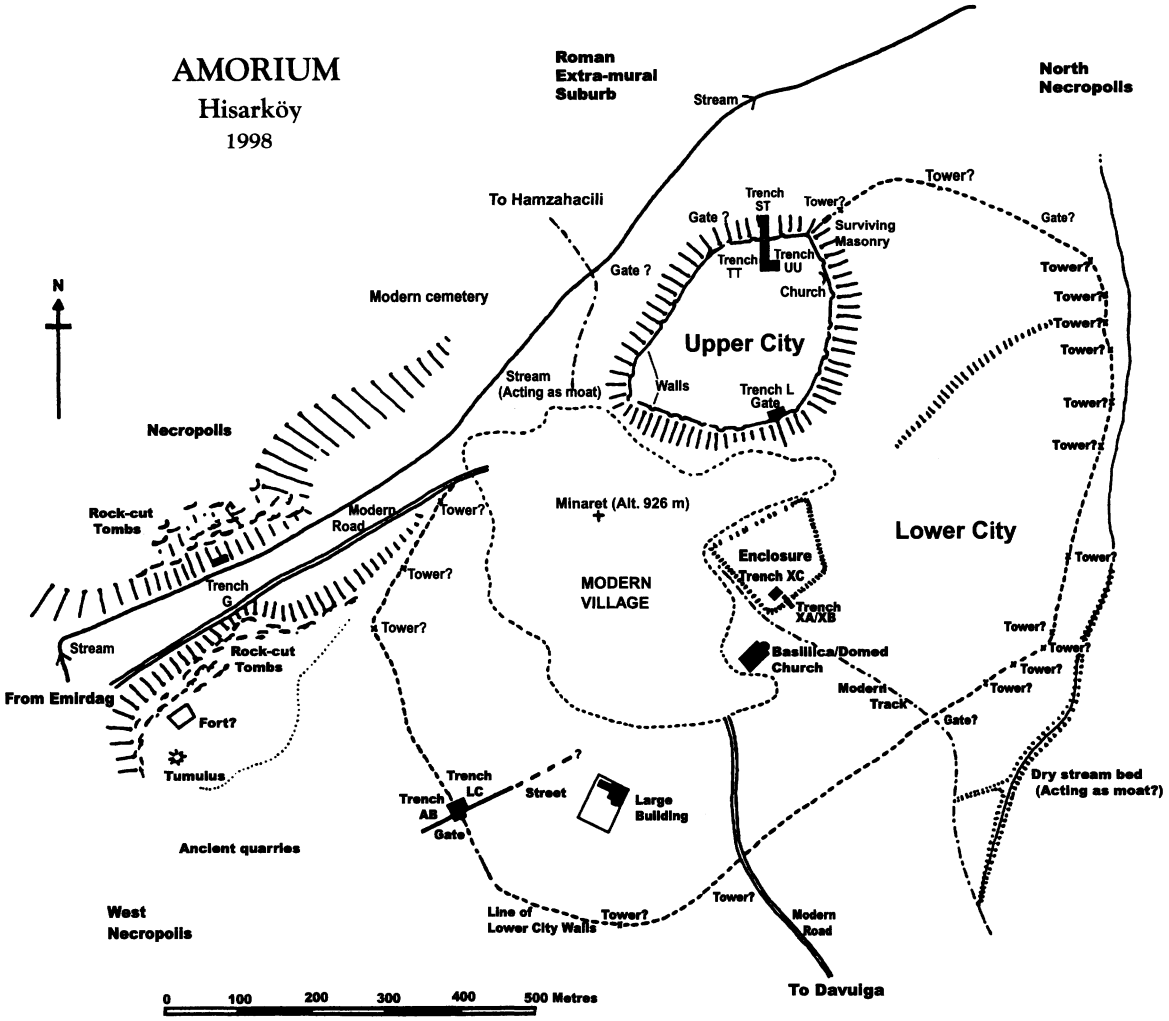


Fig. A Sketch plan of Amorium, 1988–98 (after H. Welfare, H. Dodge, and A. Wilkins, *AnatSt* 38 [1988]: 178, fig. 2)

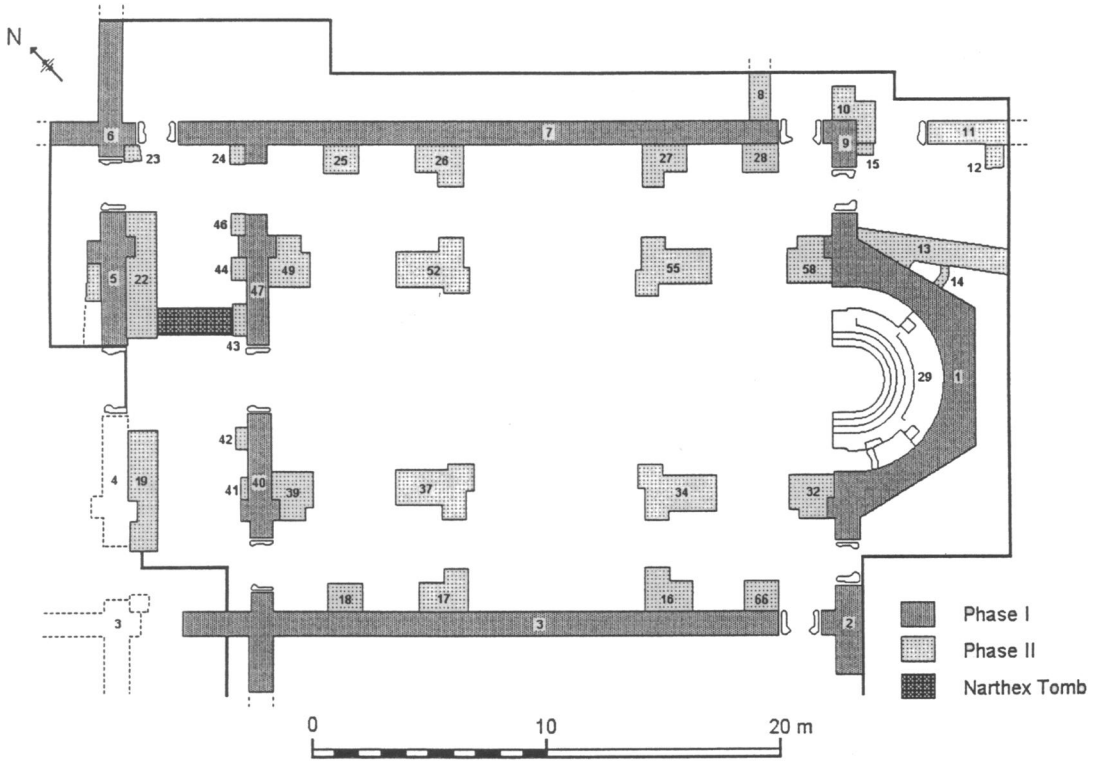


Fig. B Sketch plan of the Lower City Church (after *AnaSt* 46 [1996]: 93, fig. 1; redrawn by C. S. Lightfoot)

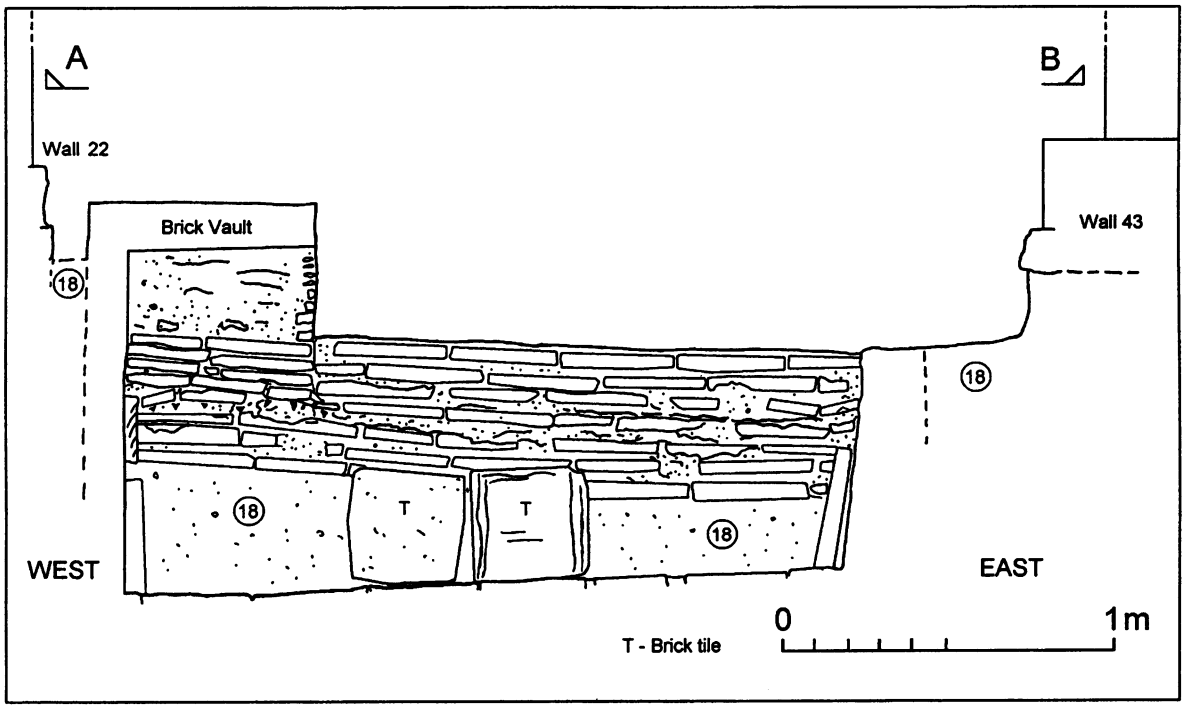


Fig. C Lower City Church, narthex tomb, section of north face (drawing by E. A. Ivison)

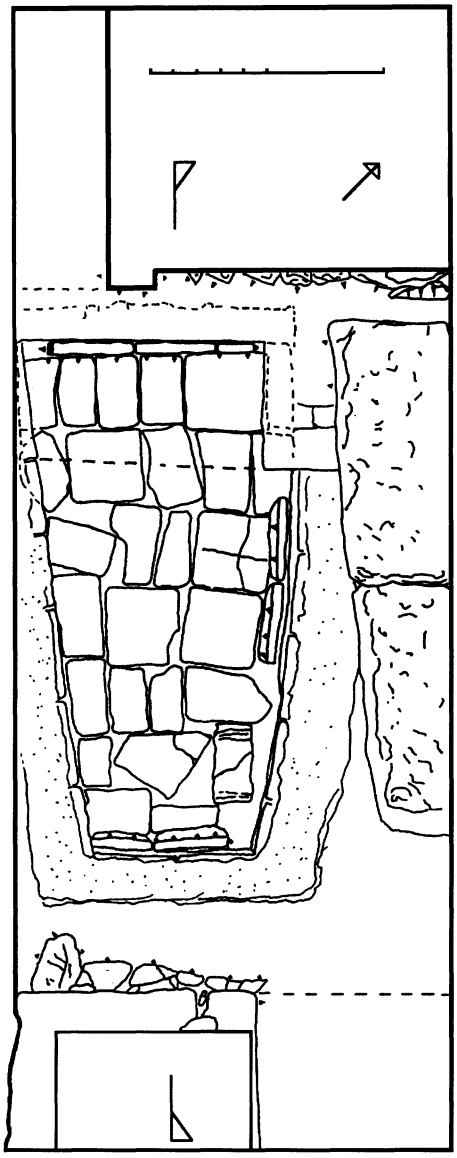


Fig. D Lower City Church, narthex tomb, plan of floor after excavation (drawing by E. A. Ivison)

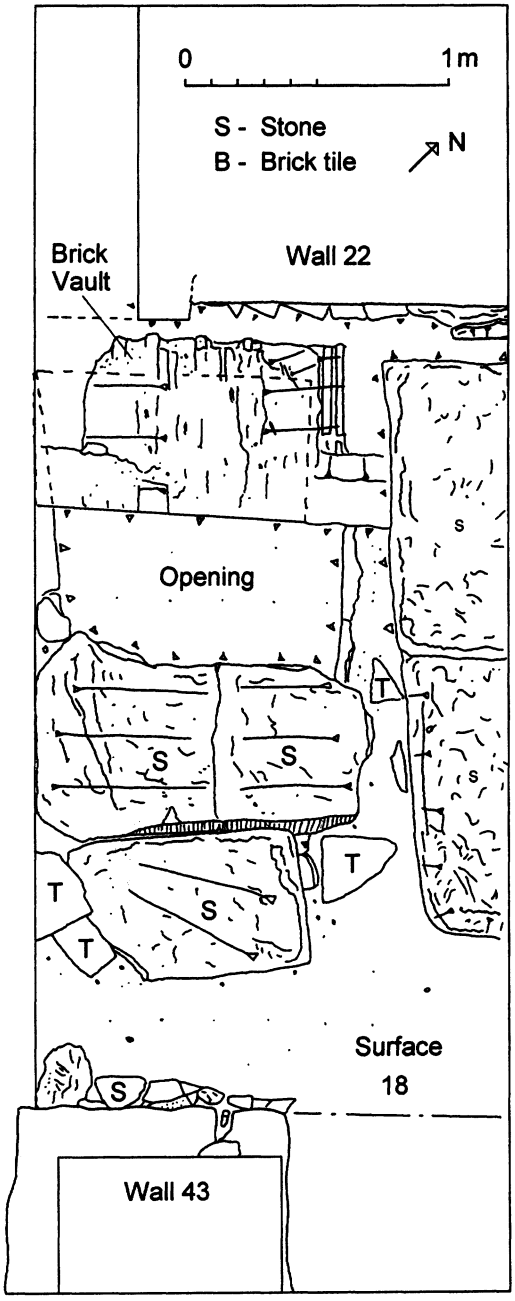


Fig. E Lower City Church, narthex tomb, plan of unopened tomb (drawing by E. A. Ivison)

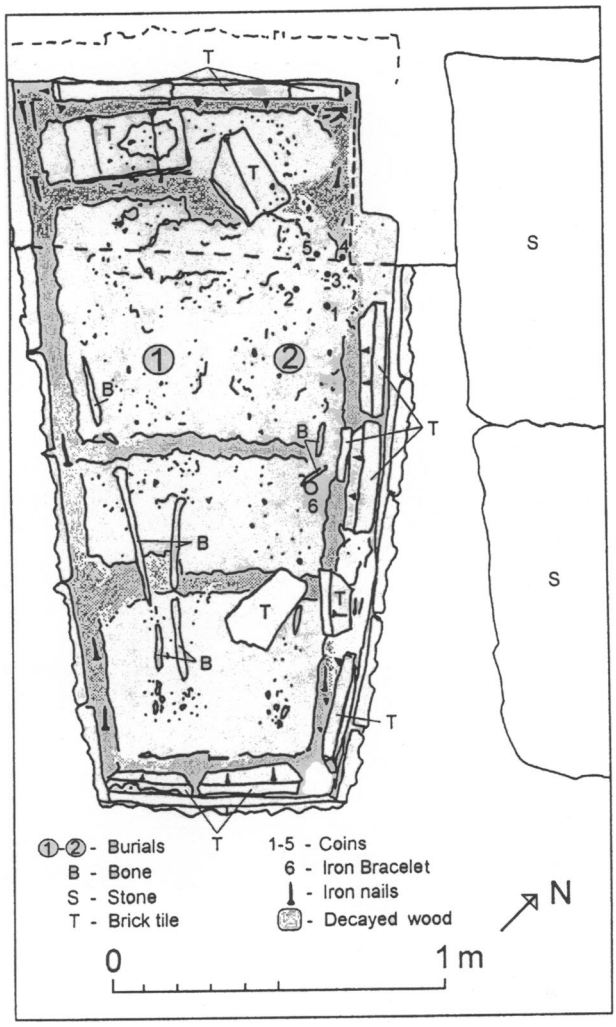


Fig. F Lower City Church, narthex tomb, plan of burials (drawing by E. A. Ivison)

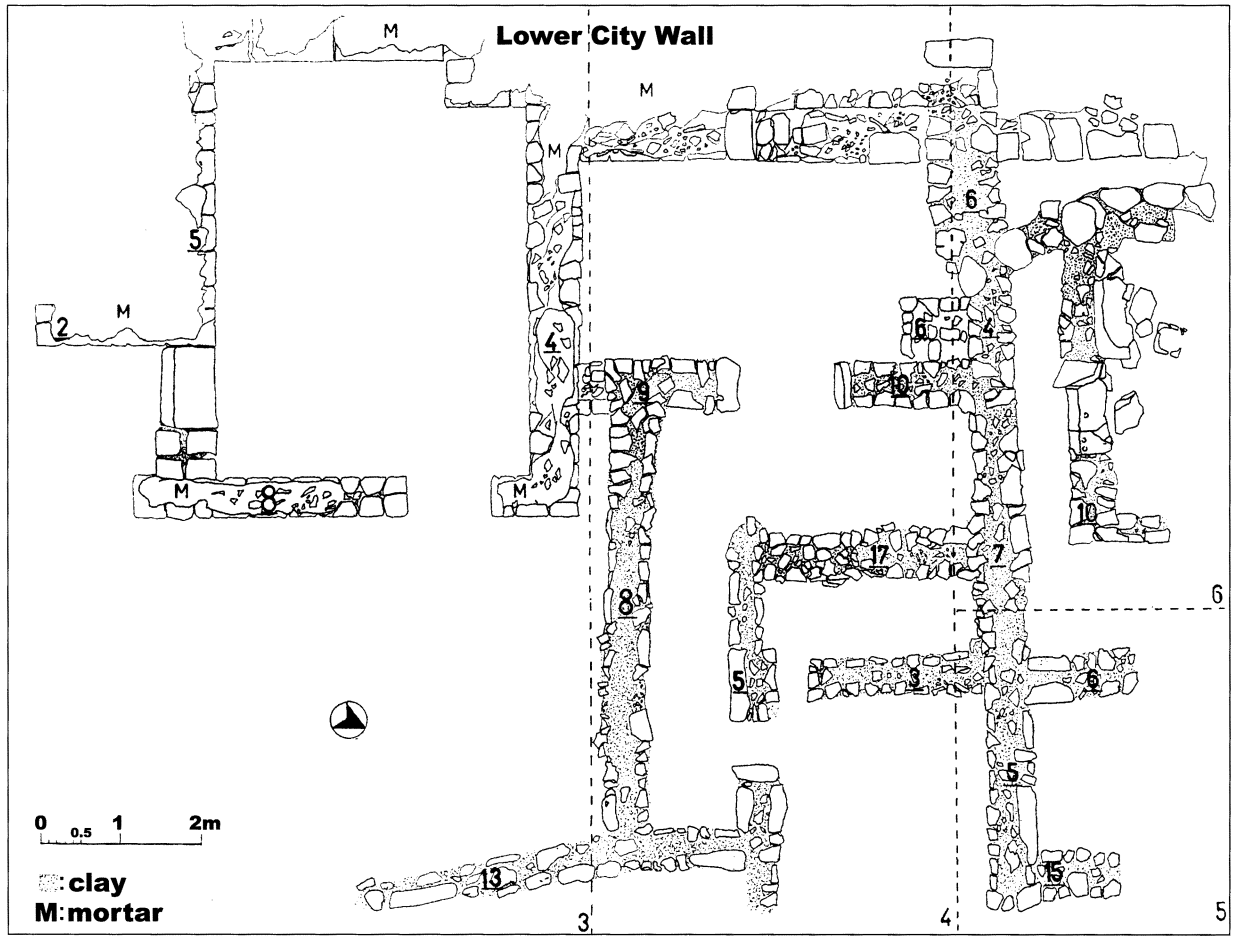


Fig. G Lower City fortifications, Trench LC, plan of areas 3, 4, 5, and 6 (drawing by Y. Mergen)

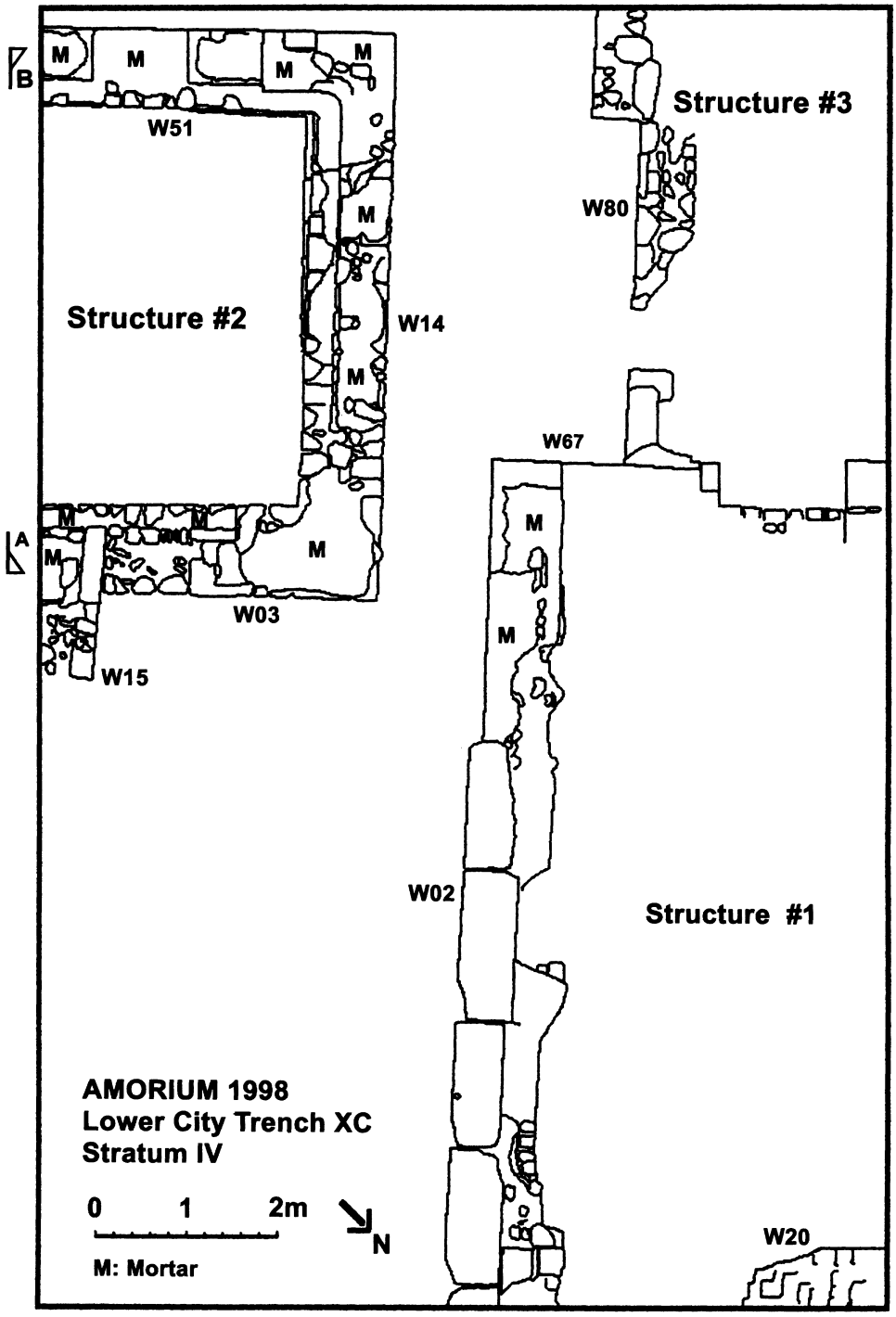


Fig. H Lower City enclosure, Trench XC, plan of Stratum IV (drawing by Y. Arbel)

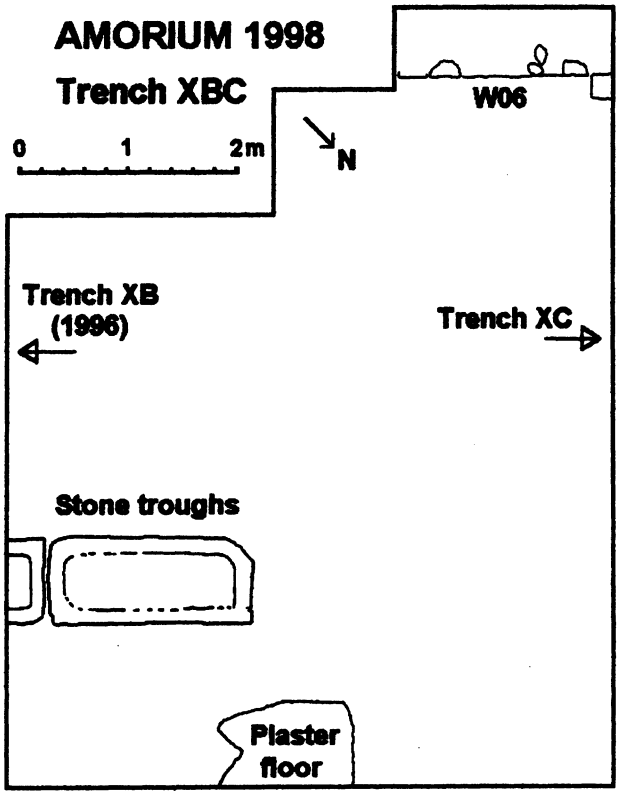


Fig. I Lower City enclosure, Trench XBC (drawing by Y. Arbel)

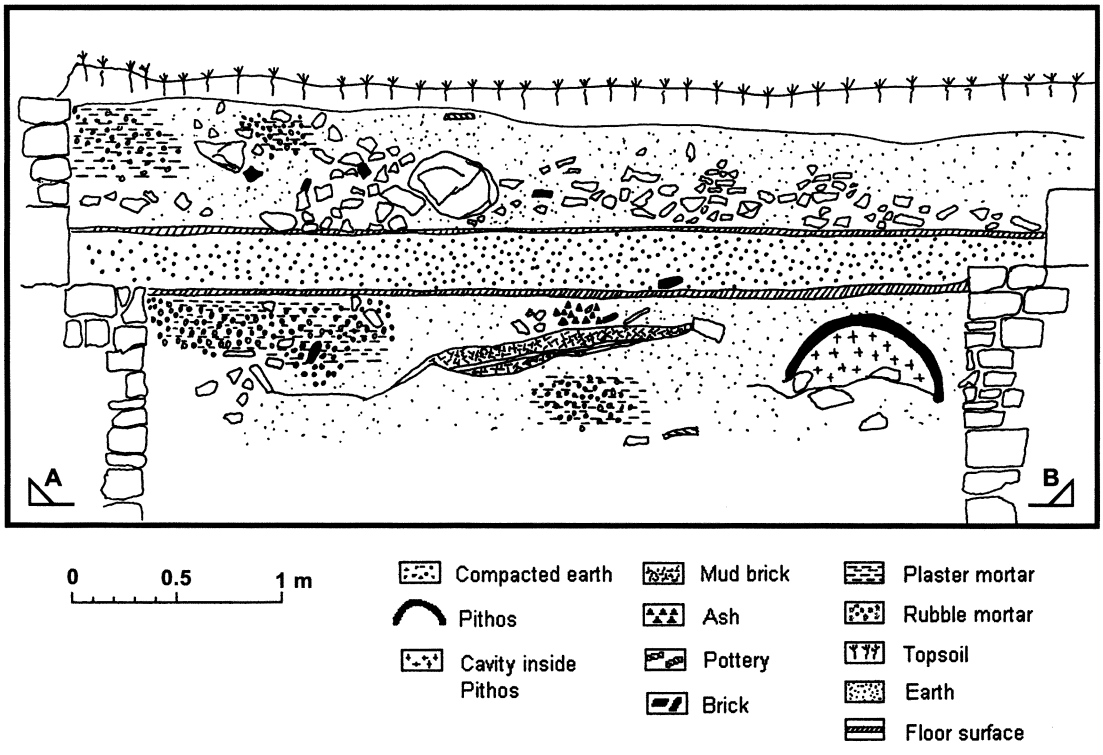


Fig. J Lower City enclosure, Trench XC, section of balk within Structure 2 (drawing by Y. Mergen)

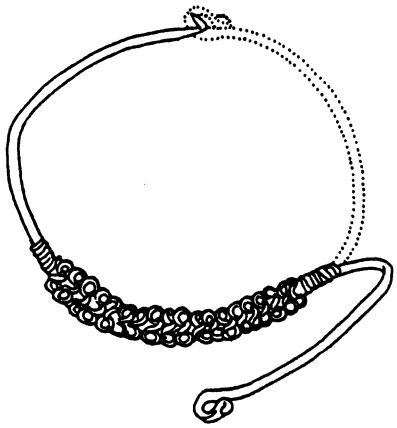


Fig. K Copper-alloy earring (SF3896), found in Trench XBC (drawing by M. A. V. Gill)

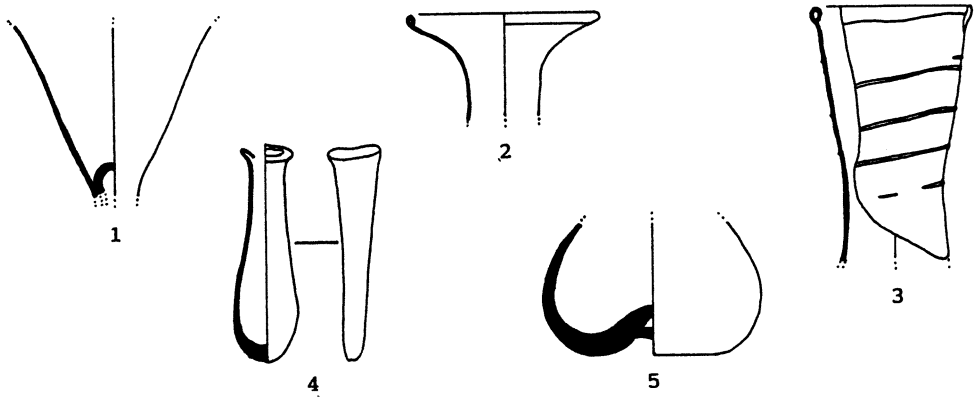


Fig. L Glass vessels (drawing by M. A. V. Gill)

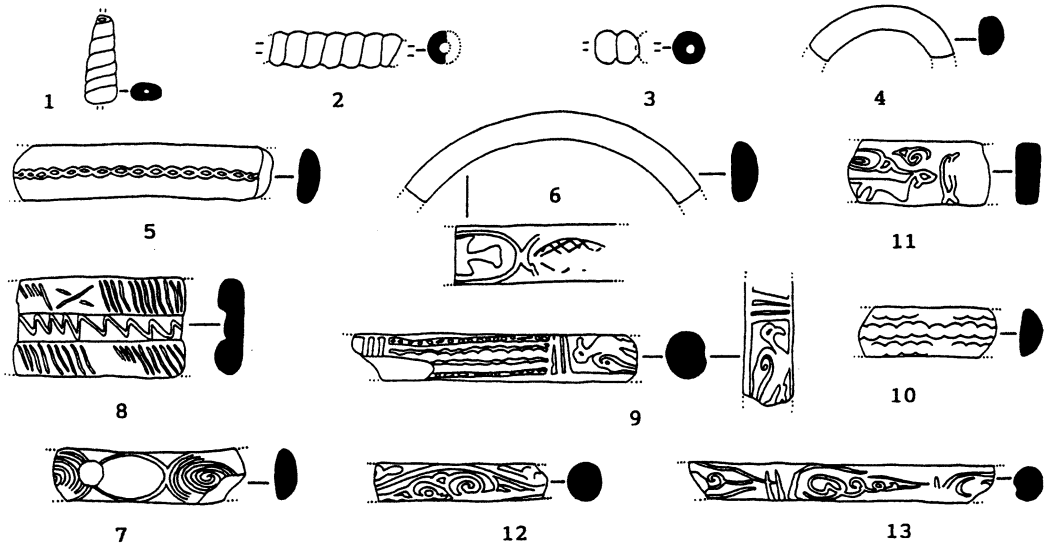
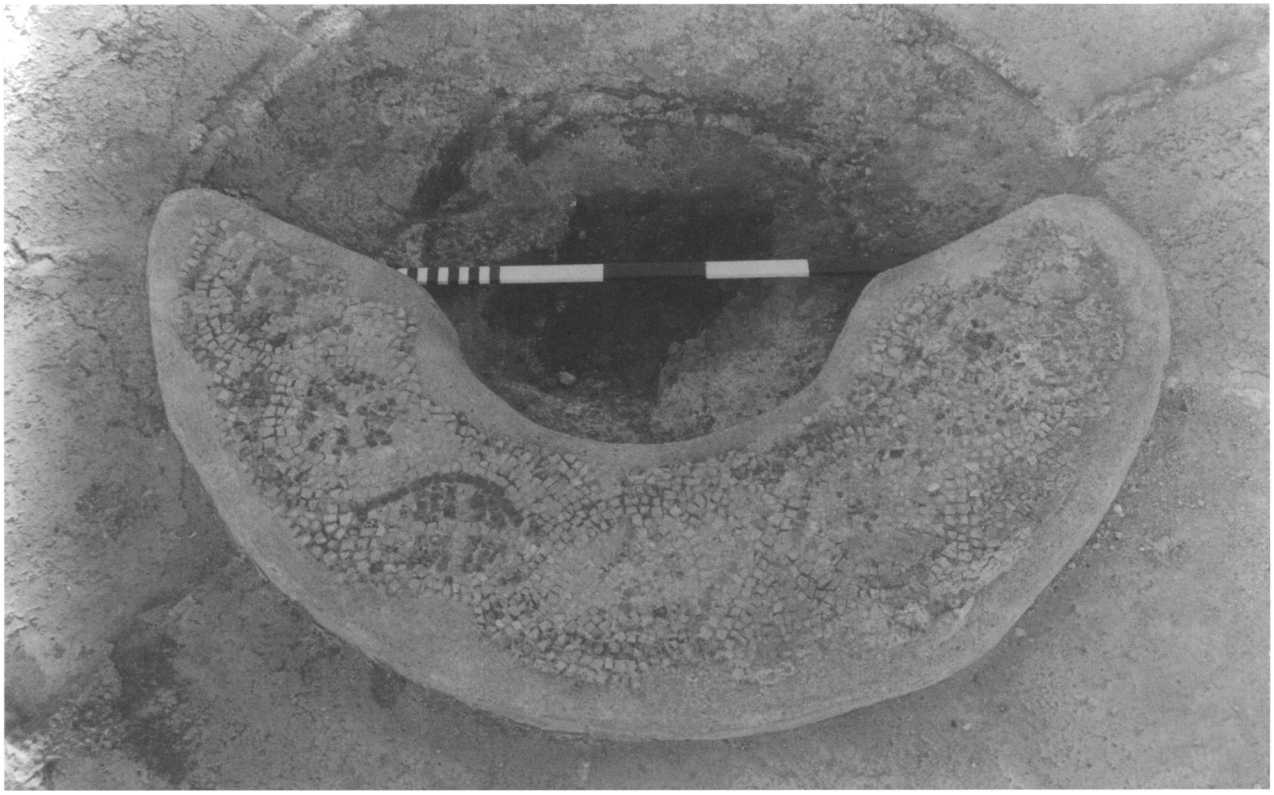
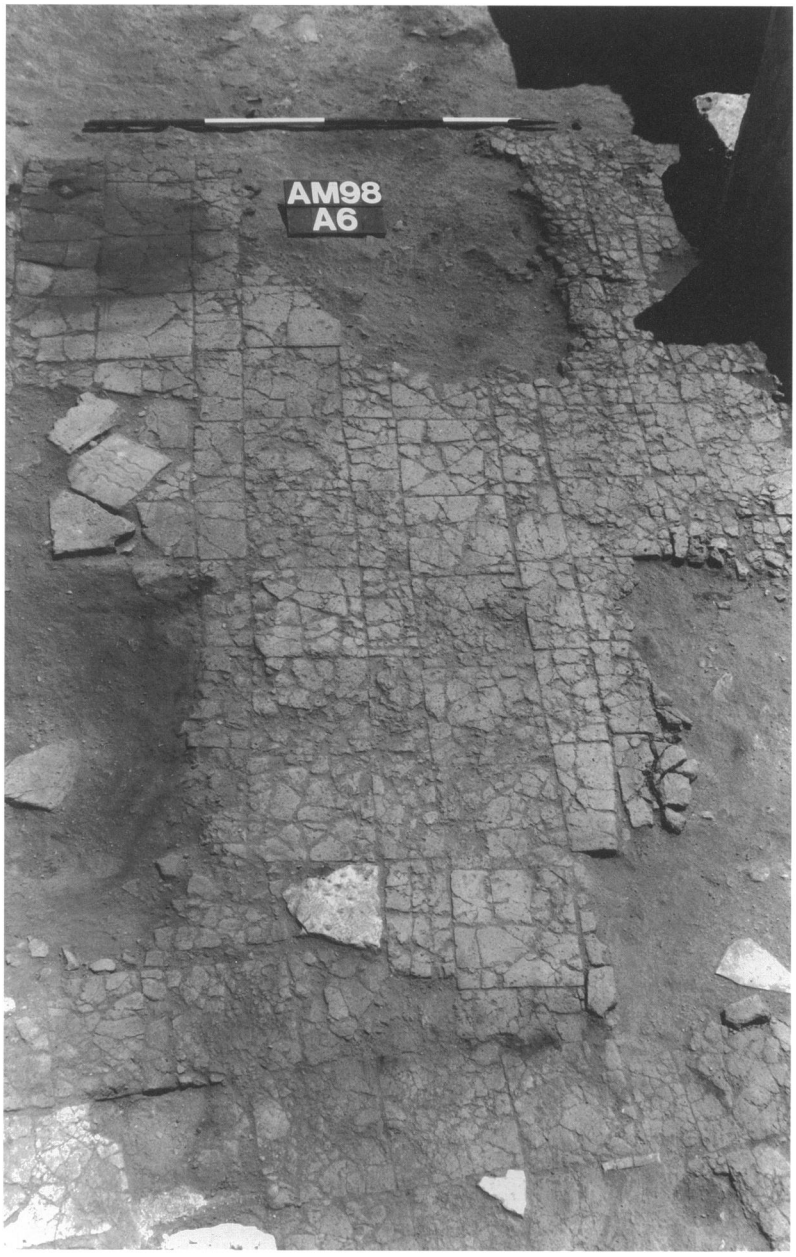


Fig. M Glass beads and bracelets (drawing by M. A. V. Gill)

1 Lower City Church, glass mosaic in the center of the nave floor near the west end, from the north (Neg. AM98/05/10A)
(All photos by C. S. Lightfoot unless otherwise stated)



2 Lower City Church, detail of mosaic after conservation (Neg. AM98/05/08A)

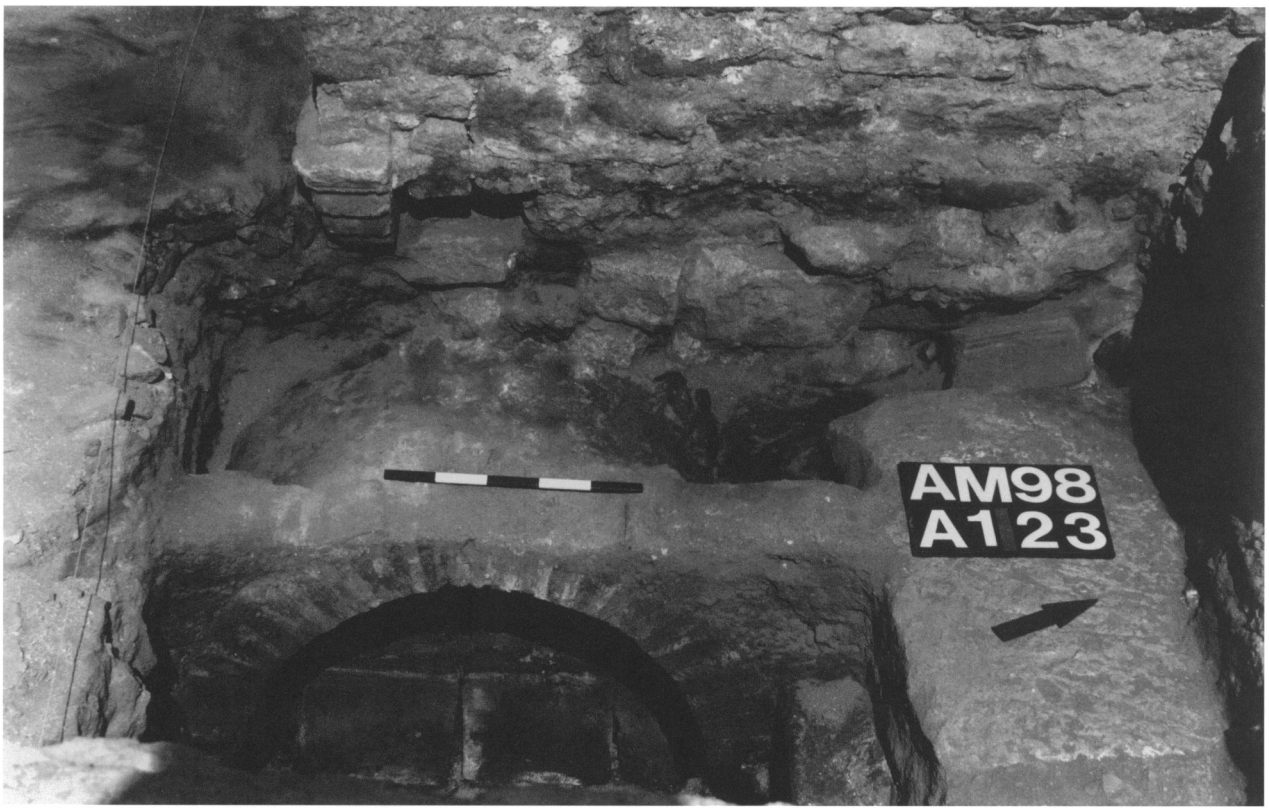


3 Lower City Church, east bay of north aisle, tile floor, from the west (Neg. AM98/03/21)

4 Lower City Church, east bay of north aisle, Context 06, east doorway, from the west (Neg. AM98/02/32)

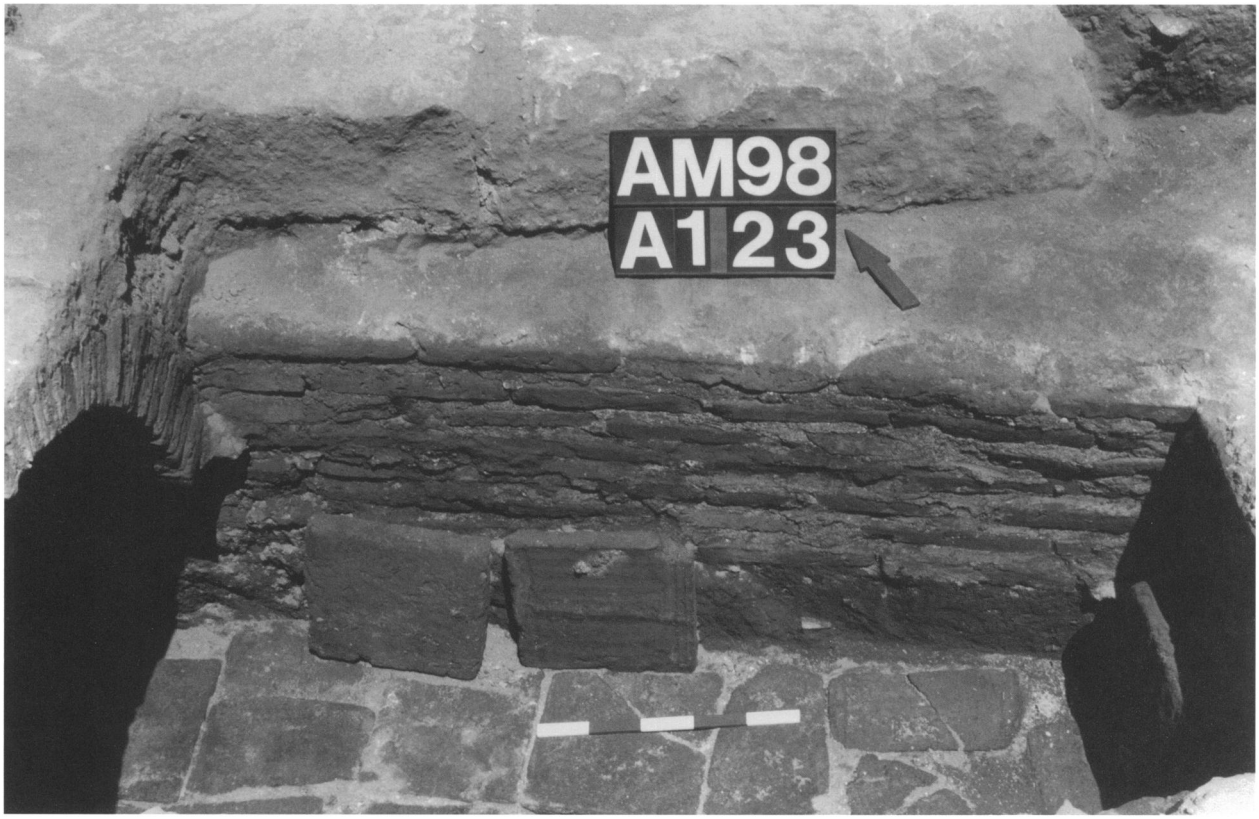
5 Baluster block (T1362), from Wall 61 in the Lower City Church (Neg. AM98/03/21)

6 Bronze hook fragment (SF3924), length as extant 6.25 cm, from under Wall 61 in the Lower City Church (Neg. AM98/06/16, photograph by I. Yazıcı)

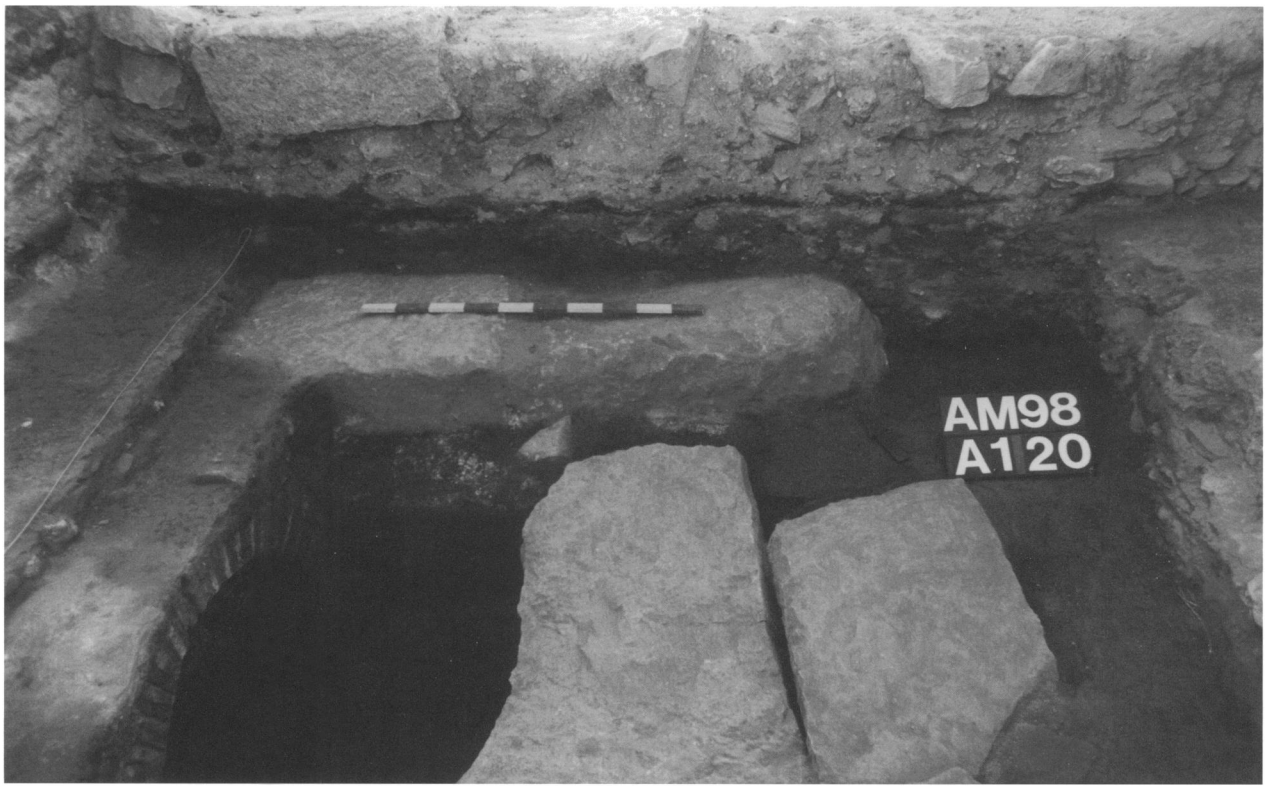


7 Narthex tomb, west end showing vault and west wall of narthex (Neg. AM98/04/13)

8 Narthex tomb, west end showing top of vault from west wall of narthex (Neg. AM98/04/14)



9 Narthex tomb, north face and tile floor (Neg. AM98/04/10)

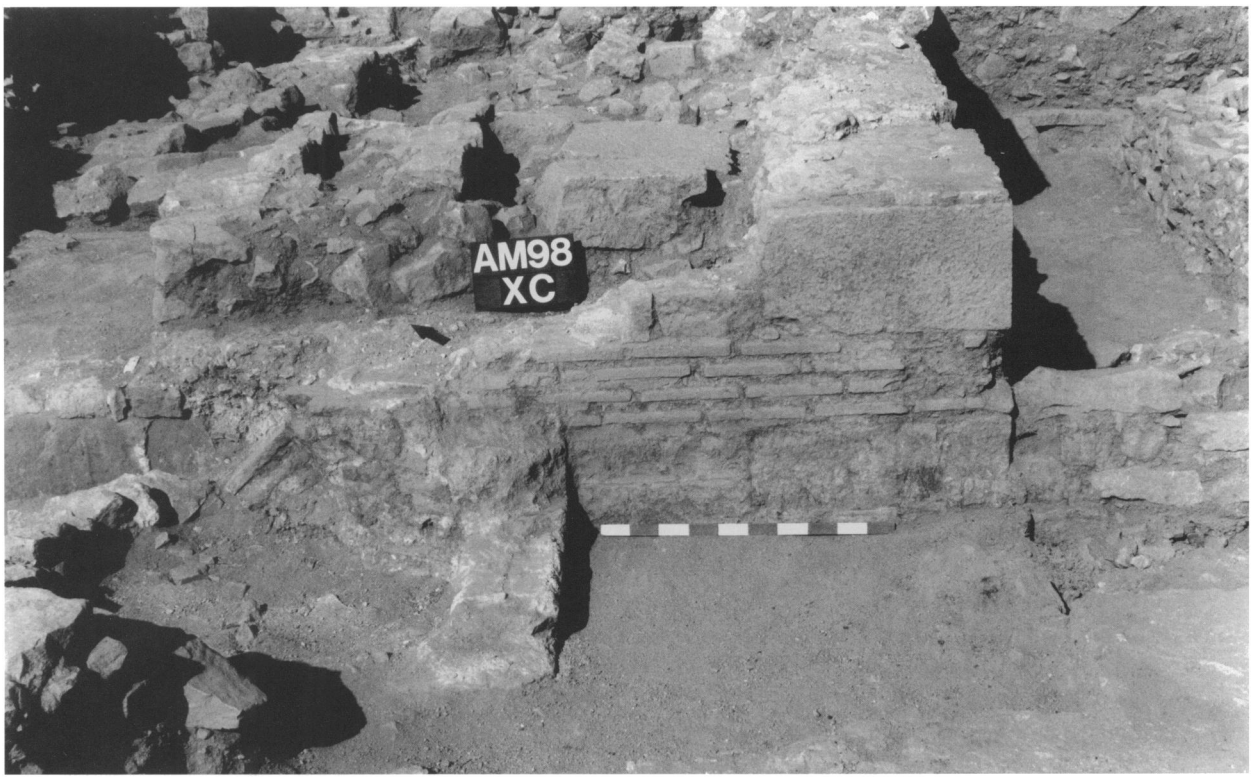


10 Narthex tomb, closure slabs *in situ* (Neg. AM98/04/01)

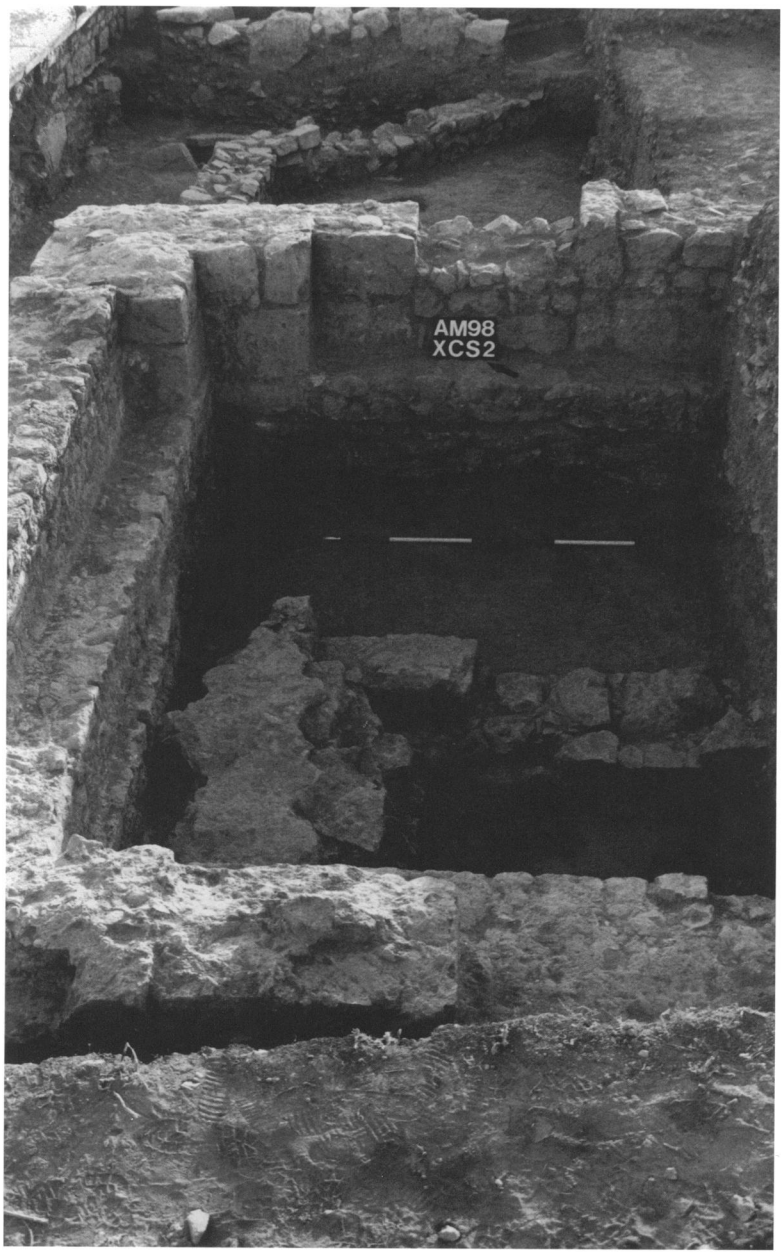
11 Lower City Trench LC19, doorway, hearth, and broken pottery, viewed from the northwest balk (Neg. AM98/01/27)

12 Restored pots from Trench LC, three multihandled vessels found within the room and a single-handled pot found just outside it near Trench LC5 (Neg. AM98/06/30; photograph by I. Yazıcı)

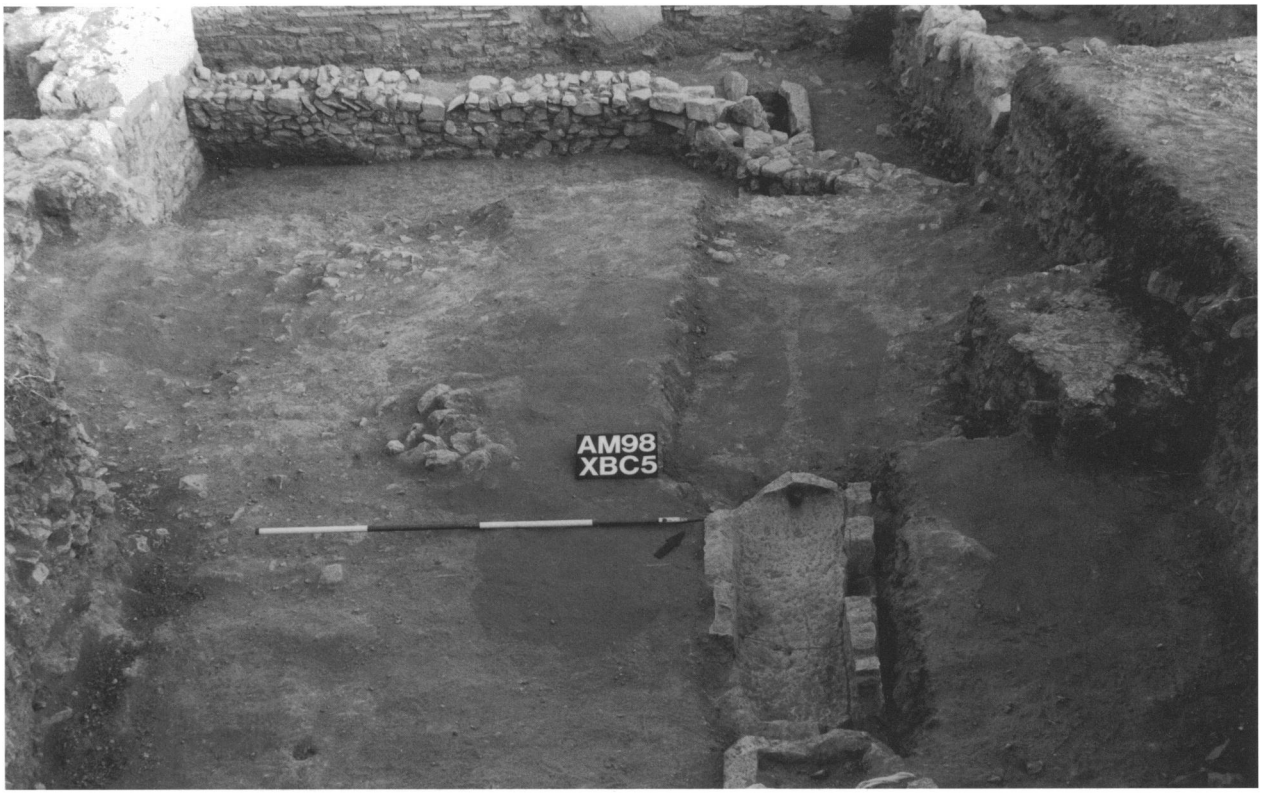
13 Lower City enclosure, Structure 1 (W02) with feature (W33) in foreground (Neg. AM98/02/36, photograph by S. Lepinski)



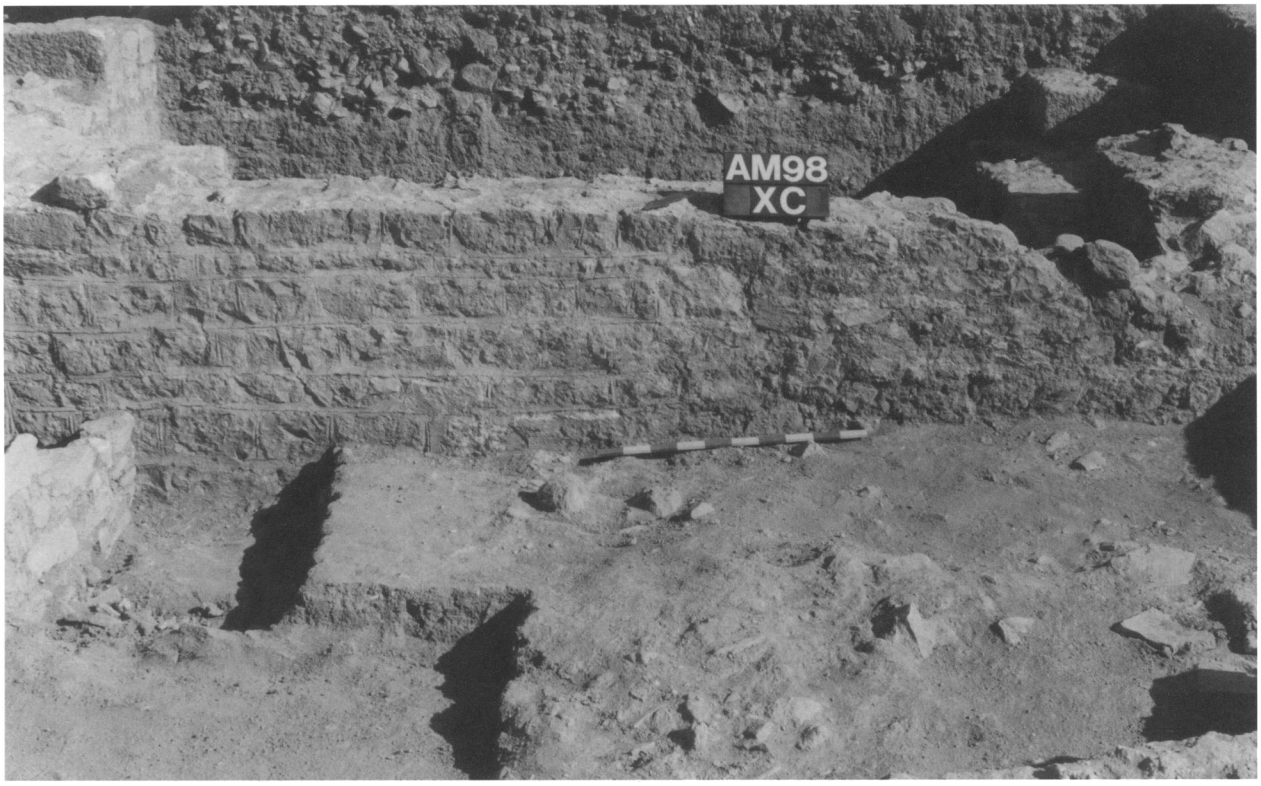
14 Lower City enclosure, Structure 1 (W67) with remains of a brick arch at left (Neg. AM98/05/28A)



15 Lower City enclosure, Stratum VI (W84) within Structure 2
(Neg. AM98/04/35)



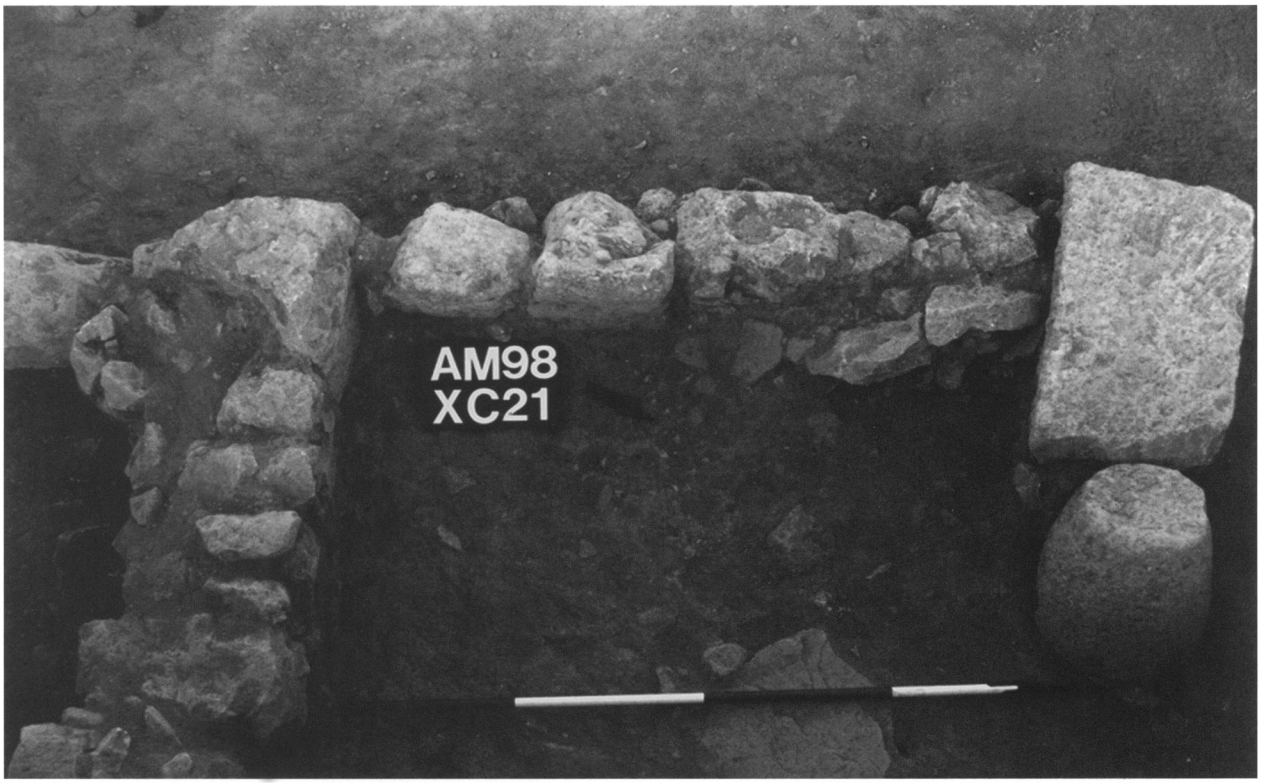
16 Lower City enclosure, Trench XBC, general view from defensive wall in Trench XB/XA (Neg. AM98/05/16A)



17 Lower City enclosure, Wall 14 of Structure 2, showing mortar pointing at left and crude repair at right (Neg. AM98/05/29A)

18 Lower City enclosure, detail of plaster facing on Wall 80 of Structure 3 (Neg. AM98/05/14A)

19 Lower City enclosure, detail of Context 42, showing complete ox skull *in situ* (Neg. AM98/02/05)



20 Lower City enclosure, Structure 6; the well found later is located under the flat slab beneath the ranging pole (Neg. AM98/02/04)

İstanbul Restorasyon ve Konservasyon Merkez Laboratuvarı), the glass mosaic in the floor of the nave (excavated in 1993) and the fresco on the wall of the south aisle (discovered in 1996) were cleaned, conserved, and consolidated (Figs. 1, 2).[5] After the completion of the excavation, planning, and conservation work, a new geotextile and pumice cover was laid over the entire floor of the church. Not only will this serve to protect this unique floor, but it has also considerably improved the appearance of the ruined shell of the building.

Two small-scale excavations were carried out, aimed at completing the clearance to floor level within the church. The first removed some 0.80 m of backfill and archaeological deposits remaining in a corner of the easternmost bay of the north aisle (designed A6). The second was conducted in the northern half of the narthex. The intention was to remove the remaining 0.50 m of archaeological deposits to pavement level, but this was postponed following the unexpected discovery of the Byzantine tomb.

Excavation in the North Aisle, East Bay (A6)

Excavation of this room was confined to the northeast corner, where excavation had ceased in 1991. During the 1990 and 1991 seasons the rest of the chamber had been cleared to floor level, but a 0.80 m deep triangular area of deposit had been left in the far corner of the bay between the eastern corners of Walls 28 and 57/58 (Fig. B). Excavation was therefore restricted to a small area between the north doorway and the eastern doorway leading to the northern pastophory. The account given here is a narrative of occupation history as reconstructed, starting with the earliest (lowest) deposits.

The earliest structure encountered was a bed of pink *opus signinum* mortar (Context A6/11) composed of crushed brick mixed with lime mortar. This patch extended from the foot of the northern threshold between Phase I walls 7 and 9. Some scraps of marble revetment and pavement from the Phase I basilica were found still *in situ* in this corner.

The middle Byzantine tiled floor (Context A6/10) was preserved in a fragmentary condition (Fig. 3).[6] Originally it clearly paved the entire chamber but was now broken and missing in places. It was bedded on a hard earth surface (Context A6/15). The tiles were like those encountered elsewhere in the north aisle and southern half of the narthex, being either square (0.32 × 0.32 m or 0.34 × 0.34 m) or rectangular.

In the first post-Christian period (Seljuk phase, of the early 13th century), the tiled floor, already damaged, was covered with a beaten earth floor (Context A6/09) with a maximum thickness of 0.05 m. Subsequently, this earth floor was extensively burned (Context A6/08 = burned surface). This event has also been detected in the *bema* and the central bay of the north aisle. Indeed, it seems to be repeated throughout the building. Following the fire, a new floor of beaten earth was laid (Context A6/07), only to be burned in its turn (Context A6/06; Fig. 4). Following this second fire and standing on the burned surface of Context A6/06, and therefore postdating it, were three contemporary structures. Context A6/13 was a large fragment of a *spolia* door frame, laid flat at the foot of Wall 28. The stone was laid with the roughened side uppermost, and so may have served as a work surface (possibly for grinding). Context A6/03 was a semicircular wall composed of three large blocks, built across the corner formed by Wall 9. Two blocks were fossiliferous limestone pieces from the church vaults, while the third was a marble epistyle fragment of middle Byzantine date (9th–10th century). The third of these structures, Wall 61, was a low, curved wall built across the corner formed by Walls 1 and 57/58. Wall 61 stood to three courses in height and was built without mortar. One of its blocks was a marble baluster block of middle Byzantine date (T1362; Fig. 5). Both A6/03 and Wall 61 were probably used as bins for the storage or dispensing of processed crops or animal feed, as encountered elsewhere in the church. The fills of these two structures, Contexts A6/05 and A6/04 respectively, were both sterile fills of earth and rubble that produced no organic remains.

[5] *AnatSt* 44 (1994): 109, pl. XVII(b); *DOP* 52 (1998): 325, fig. 3.

[6] For a photograph of the floor in 1992, see *AnatSt* 43 (1993): pl. XXVI(b).

Following the installation of these features, Context A6/02 accumulated over the burned surface A6/06 to a depth of about 0.70 m and extended over the northern and eastern thresholds. This fill consisted of loose earth, rubble, brick, roof tile, crushed mortar, and stones. Given its composition, the layer cannot be attributed to the collapse of the adjacent walls, since it lacked the density of large wall blocks and vaulting material compatible with such an interpretation. This context was most likely dumped material, used to raise the surface during Seljuk reuse. The collapse of the door frames in the northern and eastern doorways also occurred during this period. That in the northern doorway was found still lying upon the threshold where it had fallen. Context A6/02 and its disturbed surface, Context A6/01, were the first contexts to be excavated and marked where excavation had ceased in 1991.

Apart from sculpted pieces reused in Turkish structures, only a few notable finds were made; these included an ornamental bronze hook (SF3924; Fig. 6), of uncertain date but clearly Byzantine, that was found at the bottom of Context A6/02, under the site of Wall 61.

North Narthex Excavation (A1): The Tomb

Discovery and Context Excavation began in the northern half of the narthex to remove the remaining archaeological deposits over the floor. The removal of the earth and rubble layer (Context A1/12), where excavation ceased in 1992, proceeded from the edge of the 1996 south narthex excavation, in front of the steps leading up to the central west door into the *naos*. In the bay between Phase II Walls 22 and 43, vibration from the excavation work caused a sudden subsidence. A hole opened up in the surface of Context A1/12 and through the underlying layers, revealing a void beneath them. Closer inspection confirmed that this void was a large tomb. The tomb was sealed beneath all these layers, demonstrating that no disturbance had occurred since the tomb had been closed. Given the limited time left for excavation, it was decided to concentrate all efforts on the tomb and to complete the narthex excavation in a future season.

In order to dig the tomb a trench was laid out west of Pier 43 and running to Wall 22, enclosing the immediate area around the tomb (Fig. B). Excavation of Context A1/12 revealed a burned surface (Context A1/16) on top of an earth floor (A1/17). These same contexts have also been found in the south narthex; they date to the first phase of Seljuk use of the church in the early thirteenth century. The burned earth floor was above Context A1/18, a deep and uniform deposit of grayish-brown clay that filled the interior foundations of the late antique narthex. A date contemporary with the construction of the Phase I basilica can be assigned to this layer thanks to stratigraphy and pottery. Following construction, the narthex foundations had been backfilled with Context A1/18, burying the east and west faces of Phase I Walls 5 and 47 to the tops of their stepped-out foundation courses. Small shards of pottery and glass, exclusively of Roman and late antique date, were found in this fill. Context A1/18 had been carefully graded, eliminating almost all of the larger pieces of stone and tile, and producing a fill of fine, silt-like consistency that had become very dense and compacted. The reason for this careful backfilling may have been the need to create a stable foundation for the narthex that would not subside. The modern ground level falls away quite steeply toward the west and the site of the presumed atrium. The same may have been true in antiquity, requiring the builders to build up the walls at the west end and to use A1/18 to raise the floor level of the narthex to that of the nave of the basilica.

Walls 43 and 22 of the Phase II Church, as well as the tomb, postdated layer A1/18, since they were built in cuts dug out of this fill, which continues underneath them. So firm and stable was Context A1/18 that these later builders simply cut foundation trenches to the desired width of their walls and then built up their foundations inside. This is confirmed by the external appearance of these wall foundations and the lack of any backfilled foundation trench beside them. The foundations of Walls 22 and 43, for example, have very uneven surfaces, with stones piled up irregularly and mortar poured over them. These foundations must have been built using a cut in A1/18 as a frame to support the masonry faces while under construction. Upon hardening, the mortar

faithfully reproduced the interior faces of the surrounding cut. The tomb was constructed in exactly the same manner, lining the interior of the excavation cut with masonry. Disturbance of context A1/18 by the middle Byzantine builders was therefore minimal, restricted to almost surgical cuts in order to accommodate their new structures. When the tomb was sealed, some of A1/18 excavated during its construction was redeposited as a shallow layer over the closure slabs.

The Tomb Structure The tomb structure was designated Context A1/23 (Figs. C–E and 7–10). It has an irregular trapezoidal plan, being wider at its western end with sides tapering toward the east. Its maximum dimensions are 2.20 m in length and 1.15 m in width. The depth of the tomb varies between 0.66 m and 0.80 m, with its floor sloping down from the east to the west end. Although the mortared brick walls are laid out horizontally, they are not vertical but incline slightly outward from top to bottom. On the north, south, and west sides of the tomb, the bottom 0.30 m of the excavation cut was not lined with masonry, leaving the face of Context A1/18 exposed (Fig. C). The upper parts of the walls and the entire eastern wall were built of coursed and mortared brick masonry. These walls were constructed in a rudimentary fashion, with brick courses following the slope of the tomb floor from the west toward the east. Of these walls the southern was the most irregular, its upper brick courses corbelling out from their foundations to overhang the floor. This feature may reflect a miscalculation by the builders, since the top of the wall had to be built out to support the irregular edges of the cover stone. The mortar used in the tomb walls was grayish and brittle, with white lime admixed with large quantities of small, gravel-sized pebbles. This mortar was applied liberally to tidy up the appearance of slapdash construction. The pointing varied between 0.02 m and 0.05 m in thickness and had been smoothed over untidy brick edges. While this mortar was still wet, large dollops had been squeezed out of the interstices, probably by the immense weight of the closure slabs resting on the tops of the walls. This excess mortar had then dripped onto the floor and the bricks placed around the foot of the walls. This evidence demonstrates that the tomb was newly constructed for the intended burials, since the mortar had not yet set when the roof was sealed.

At the western end of the tomb is a brick arch ca. 0.54 m deep, rising to a height of 1.04 m above the floor and 0.27 m above the level of the side walls (Fig. 7). This arch was better constructed than the side walls, having been built with radially laid bricks and carefully pointed with fine, white mortar. The exterior surface of the vault was thickly covered with mortar, while the interior had been smeared with only a thin coating (Fig. 8). The floor of the tomb inclines downward toward the west. This floor was paved with whole and half bricks laid without mortar on the cut away surface of Context A1/18 (Figs. D and 9).

Only the western end of the tomb was vaulted. The eastern and central parts of the tomb were covered with two large limestone cover slabs (Figs. E and 10). That covering the eastern end was a slice from a late antique building block, while the central stone was a slab of irregular shape and uneven finish. This slab had cracked into two pieces but remained precariously in place over the tomb. Both slabs rested on the top edges of the tomb walls and were further sealed by tile fragments inserted into their interstices. The vault over the western part of the tomb rose slightly above the level of the cover slabs.

Between the central cover slab and the brick arch no stone slab sealed the tomb. Here only the hardpan of the backfilled Context A1/18 sealed an area measuring 1.10 × 0.56 m, the subsidence of which had revealed the tomb's existence. Remarkably, this compacted layer had been left suspended following the collapse of two wooden planks that had been used to close the tomb at this point. Excavation of fallen earth from Context A1/18 inside the tomb revealed two flat planks of wood (Context A1/21, nos. 1 and 2) lying parallel to one another on a north-south orientation. Like the closure slabs, the ends of the planks had originally rested on the top edges of the tomb walls. But when the wood had weakened, the southern ends of the planks had fallen into the tomb, coming to rest at the foot of the south wall. The northern ends of the planks still remained *in situ* on the top edge of the tomb's

north wall. Plank 1 lay partially on its side, slightly turned toward the east. Plank 2 lay partially underneath no. 1. Both planks were in a spongy and fragile condition. Both were subsequently removed in sections for dendrochronological analysis. Why the Byzantines might have chosen wooden planks rather than another stone cover slab to close the tomb's entrance will be discussed below.

The Burials and Funerary Furniture Removal of the cover slabs and the wooden planks revealed two undisturbed burials, designated individuals 1 and 2. Unfortunately, the bones were badly decomposed owing to dampness in the tomb, probably as a consequence of the water-retentive qualities of the surrounding Context A1/18. The collapse of the wooden planks and accompanying earth had further crushed these delicate remains. The skulls and upper parts of the bodies had completely disintegrated and were observable only as outlines of yellow-white dust and small bone fragments. Bones survived well only at the eastern end of the tomb, where feet bones and some lower leg bones remained in place. The sex, age, or cause of death will be difficult to determine from such decayed remains. But the outline of the bodies showed clearly how they had been prepared for burial and that, despite their decay, both skeletons had been articulated with no evidence of later disturbance (Fig. F). The bodies were laid out in an extended and supine position, lying parallel to one another. Their lower arms and hands were crossed over their pelvic regions. Each head had rested upon a brick fragment (Context A1/26) that served as a pillow. When placed in the tomb, both bodies were oriented east-west, with their heads to the west and their feet pointing eastward.

The same dampness that had largely destroyed the bones had preserved other organic remains, however. Cleaning revealed that both bodies still lay on the remains of a wooden pallet or funerary bier (Context A1/25), which rested on the paved floor of the tomb. The two bodies lay on top of the structure, which must have been lowered into the finished tomb as the first stage of the burial procedure. The outline of the bier could still be traced from lines of reddish-brown stains in the soil and the occasional fragment of wood. The iron nails that held the wooden frame together were also found *in situ* around the edges of the tomb. So, despite the poor preservation of the remains, the design and construction of the bier can be reconstructed with certainty.

In appearance the Amorium bier must have been a low pallet, reminiscent of a bedframe, measuring approximately 2 × 1 m. The bier was roughly rectangular in shape, tapering toward the feet at the east end, and consisted of a wooden frame with transverse struts. Wood fragments indicate that this framing was cut square in section, although the transverse struts may have been flat slats. The wooden frame and struts were held together by up to fifteen iron nails. These nails measured on average 0.10 m in length and 0.015 m in width and had shafts that were square in section. They had been driven through the thickness of the wooden frame, fragments of which had been preserved owing to oxidization. The pointed end of the nail was then clawed over. The head of the nail was also clawed over and hammered down into the surface of the wood. The wooden frame was once covered with textile like a stretcher, for although this fabric had perished, it had left a black stain.

No evidence of carrying poles was found in the tomb, suggesting that it was carried on the shoulders, and must have been lowered into the tomb with ropes. This must have been done before the cover slabs were put in position, since the size of the bier and the narrowness of the plank-covered opening at the west end precluded the bier's later insertion. Inside the tomb the bier had been pushed up against the face of the southern wall. Nine square bricks and half bricks, standing on edge, had been inserted at intervals into the narrow space between the bier's frame and the west, east, and north walls of the tomb. Some of these bricks were intact specimens, while others were broken halves. These bricks, and those in the tomb walls and floor, are typical of those used in the piers and aisle pavements of the Phase II Church. The intact bricks were square (on average between 0.32 × 0.32 m and 0.34 × 0.34 m square) and ca. 0.04–0.05 m thick. The top surfaces of some bricks had been scored with parallel finger grooves before firing. After the wooden bier frame

holding these bricks in place had decayed, one of these bricks on the north side had toppled inward on top of the bier. These bricks played no structural role but must have served to stabilize the bier by wedging it in place.

Biers used to exhibit the dead at the *prothesis,* or laying out, and to convey the body to burial, are attested in literature of the middle Byzantine period.[7] To quote just a few examples: Ignatios the Deacon (d. 848) uses the word ὁ σκίμπους (usually understood as a pallet or small couch) to describe the bier used at the funeral of Patriarch Tarasios (d. 806).[8] The *Book of Ceremonies,* compiled in the mid-tenth century, uses the grander words ἡ χρυσῆ κλίνη ἡ ἐπονομαζομένη λύπη ("the golden couch, which is called that of sorrow") to describe that used at imperial funerals.[9] The term ἡ κλίνη also appears in the early eleventh-century *Life of St. Athanasios the Athonite* (d. ca. 1003).[10] In both appearance and design the Amorium bier compares well with the meaning of these words, and to my knowledge, it is the first recorded example excavated in a middle Byzantine context.

Associated Objects Since the tomb was found sealed and undisturbed, the presence and positions of any objects associated with the burials were of especial interest. As in the case of most middle Byzantine tombs, however, these finds were few. No objects were found associated with individual 1. Instead, the only objects found in the tomb were associated with individual 2. A badly corroded iron bracelet was found in two pieces at the site of the left forearm or wrist. The bracelet was a circlet of iron, with the closure twist of the band on one side (SF3897; maximum dimensions: 7.1 × 6.5 cm). No other jewelry was found associated with the remains.

Of greater significance for the dating of the burials was a scattered group of five copper alloy coins, also found associated with individual 2. The coins were recovered from a 0.05 m^2 area between the site of the left shoulder and the head, close to the end of the brick pillow on the north side. The coins lay some 0.07 m above the tiled floor in a thick layer of disintegrated bone fragments. The coins were in a poor state of preservation owing to the damp conditions in the tomb, but, after cleaning and conservation expertly carried out by Dr. Hande Günyol, examination revealed that they were all folles of Emperor Nikephoros II Phokas.[11]

Nikephoros II Phokas (A.D 963–969)

Obv. [+ΠICIFRЬ ASILЄVRѠ]; bust, facing, bearded, wearing robe and crown with cross and pendilia; in r. hand, cross-scepter; in l., globe surmounted by trefoil. Much corroded, but cross-scepter visible.

Rev. [+ΠICѠF]/ЄΠΘ[ЄѠЬA]/SILЄVS [RѠ]/MAIѠ[Π]

1 AM98/A1–22/SF3856; AE follis, class 1; 23–21 mm; 7.2 g; 6h. From the Lower City Church, narthex tomb, find no.1 *DOC* 3.2: *Basil I to Nicephorus III (867–1081),* ed. P. Grierson (Washington, D.C. 1973; 1993), 586–87 [7.1–4]; P. Grierson *Byzantine Coins* (London and Berkeley, 1982), 827.

Obv. Similar. Badly corroded.

Rev. +ΠIC[ѠF]/ЄΠΘЄѠ[ЬA/SIL]Є[VS RѠ/MAIѠΠ]

2 AM98/A1–22/SF3857; AE follis, class 1(?); 25–23 mm; 7.5 g; –h. From the Lower City Church, narthex tomb, find no.2

Obv. Similar. Much corroded, but bust discernible.

Rev. [+Π]IC[ѠF/ЄΠ]ΘЄѠ Ь[A/SIL]ЄVS RѠ/MAIѠΠ

3 AM98/A1–22/SF3858; AE follis, class 1(?); 27–24.5 mm; 7.0 g; 6h. From the Lower City Church, narthex tomb, find no.3.

Obv. As no. 1, but [+ΠIC]IFRЬ ASIL[ЄVRѠ]

Rev. +ΠIC[ѠF]/ЄΠΘЄѠ[ЬA]/SILЄVS RѠ/MAIѠΠ

4 AM98/A1–22/SF3859; AE follis, class 1;

[7] P. de Meester, *Liturgia Bizantina,* vol. 2.6 (Rome, 1929), 84, 96.

[8] *The Life of the Patriarch Tarasios by Ignatios the Deacon* (*BHG 1698*), ed. and tr. S. Efthymiadis, *Birmingham Byzantine and Ottoman Monographs* 4 (Aldershot-Brookfield, Vt., 1999), 159, line 10.

[9] Constantine VII Porphyrogennetos, *Le livre des cérémonies,* ed. A. Vogt (Paris, 1939), vol. 2, 84, lines 2–3.

[10] L. Petit, "La Vie de S. Athanase l'Athonite," *AB* 25 (1906): 77, lines 9–10.

[11] The identification of the coins was carried out by Chris Lightfoot as part of his general catalogue of the numismatic material from Amorium.

24–22 mm; 5.8 g; 6h. From the Lower City church, narthex tomb, find no.4.

Obv. Similar. Badly corroded.
Rev. +ΠIC[ѠF/ЄΠ]ΘЄѠ[ЬA/S]IIL Є V S
[R Ѡ]/MAIѠΠ
5 AM98/A1–22/SF3860; AE follis, class 1 (?); 27–26 mm; 8.4 g; –h. From the Lower City Church, narthex tomb, find no.5

The inclusion of coins with Byzantine burials is well attested throughout the medieval period, although seldom in the numbers found in the tomb at Amorium. Most graves have been found to contain single or pairs of coins. In tombs intended for multiple burials, coins gradually accumulated over time with new interments. Although this practice probably derives from the ancient custom of "Charon's obol," the pagan significance was supplanted with a purely talismanic role in Christian Byzantium. Coins were reinvented as apotropaic charms to defend the Byzantine dead from the attacks of demons.[12]

The Date of the Tomb and Its Burials The relative chronology of the tomb structure in the stratigraphy of the narthex (and of the church as a whole) is clear. The Phase II Walls 22 and 43 were built in trenches cut into the late Roman Context A1/18. The tomb was built in the same way, but after the construction of Walls 22 and 43, since location of the tomb is predicated by these Phase II structures. The eastern wall of the tomb was in line with Pier 43 and of the same width, while the western wall and vault were built no more than 0.12 m from the undisturbed face of Wall 22. These observations give a *terminus post quem* for the construction of the tomb after the rebuilding of the church in the late ninth or first half of the tenth century.

The coins allow an even more precise dating. Given the fact that all five coins belong to the same emperor, it may be safely assumed that the burial occurred during or soon after the reign of Nikephoros II. The tomb was thus in existence by ca. 970, but when was it constructed? The evidence of the mortar dollops shows that the tomb was newly constructed when it was sealed, since the mortar had not yet set and was squeezed out of the brick courses by the weight of the closure slabs. Some of this wet mortar fell onto the upright bricks around the lower walls used to wedge the bier in position. This would suggest that the interval between construction, installation of the bier, and closure of the tomb could have been measured in days. It seems logical to assume that this occurred immediately after death since it was customary in Byzantium to perform burials within twenty-four to seventy-two hours after death. The presence of only two bodies, laid out formally side by side on a bier that stood on the clean floor of the tomb, further implies that the tomb was constructed expressly for, and even possibly at the command of, these two individuals. One may therefore conclude that the tomb and its burials were installed some time between 963 and ca. 970.

Any further discussion of the chronology of the burials remains speculative. The initial impression to be drawn from the burials is that both individuals died at the same time and were buried together. Such a timely scenario would have had to have been fortuitous, since there is no evidence as yet for a sudden cause of death, such as an epidemic or violence. Nor is there any evidence that either body was later disturbed or moved aside. However, one must also consider the possibility that one of the two individuals died first, followed soon after by the other. If this was the case, then whichever of individuals 1 or 2 died first cannot now be determined. In this alternative scenario, space must have been allocated on the bier for the addition of a second body during the initial burial. Indeed, the intention to reopen the tomb may be implied by the temporary nature of the planks used to close the western end of the tomb. When one considers the easy availability of stone at Amorium, the use of wooden planks is unusual. Perhaps the custodians planned to open the tomb later to transfer the remains to another location or even to add further bodies. Regardless of whatever the original intention may have been, no later activity disturbed the burial of individuals 1 and 2.

[12] For a detailed discussion of this custom, see E. A. Ivison, "Mortuary Practices in Byzantium: An Archaeological Contribution (c. 950–1453)" (Ph.D. diss., University of Birmingham, 1993), chap. 13.

Why the planks were never replaced with a permanent stone lid remains a mystery.

The Historical Significance of the Tomb and Its Burials The presence of a large, well-built tomb in the narthex of the Lower City Church is significant with regard to the social status of the deceased. The use of narthexes for privileged burials in the middle Byzantine period is well attested, both in the capital and in the provinces. Tenth-century burials, probably of the founder's family, have been excavated in the narthex of the Lips North Church at Constantinople built by the *protospatharios* Constantine Lips.[13] Burials of aristocratic patrons and their families, as well as eminent monks and clergy, are also present in large numbers in the narthexes of churches of the ninth to eleventh centuries in Cappadocia.[14] Individuals 1 and 2 were buried in the narthex of what must have been one of the most imposing and lavishly adorned churches at Amorium. As is attested elsewhere, such a privilege would have been granted to only a few important people, particularly those who acted as sponsors. We may therefore conclude that the tomb's occupants were of high status and had some significant connection with the Lower City Church, perhaps even acting as donors.

At present, one can draw only general conclusions with regard to the identity of individuals 1 and 2. It is to be hoped that a thorough examination of the surviving bones may reveal information concerning the sex and age of the two individuals, although the poor preservation of the bones may well preclude such identification. The presence of the bracelet and coins associated with individual 2 cannot be used to determine gender. No epitaph or marker that may have recorded their names has been found. Individuals 1 and 2 were therefore of privileged status but remain anonymous, and the relationship between them remains uncertain. Clearly though, a bond existed between them in death as presumably in life, whether it be friendship, collegiality, blood relationship, marriage, or a spiritual bond, and this was strong enough to merit their burial together.

[13]T. Macridy, C. Mango, A. H. S. Megaw, and E. J. W. Hawkins, "The Monastery of Lips (Fenari Isa Camii) at Istanbul," *DOP* 18 (1964): 272, figs. 5, 71, and 73.

[14]N. Teteriatnikov, *The Liturgical Planning of Byzantine Churches in Cappadocia*, OCA 252 (Rome, 1996), 167–73, 179–82.

The Lower City Walls (by Y. Mergen)

Further exploratory work was carried out in the area designated as Trench LC within the Lower City walls northwest of the main gateway (Fig. A).[15] A small trench (Trench LC6) was opened adjacent to the area where excavations had been conducted in 1996. The aim was to clarify the nature and date of the structures that have been uncovered in this sector of the Lower City since excavations started here in 1994. In addition, by clearing further sections of the city wall itself, which are better preserved here than southeast of the gateway, it was hoped to reach a clearer understanding of the relationship between the fortifications and the buildings immediately behind them.

The new trench, measuring 8.6 × 4.65 m, is located southwest of Trench LC5, opened in 1996, and northwest of Trench LC4 (Fig. G). No evidence for occupation in the post-Byzantine period was found, although the Byzantine structures had clearly suffered considerable damage in later times, in part as a result of fairly recent stone robbing. Such activity was common at Amorium, lasting well into the twentieth century, and it is only since the excavations started in 1988 that the locals have desisted from using the site as a quarry for stone. This has led to an accumulation of soil and rubble immediately behind the wall, thus radically altering the local topography and contributing further to the destruction of the occupation layers. As a result the Byzantine structures now survive only to a height of just above floor level.

Despite this, some significant evidence and important finds were recovered from the area. A floor, comprising packed earth, was uncovered in Trench LC6 at the same elevation as that found in Trench LC5. Lying on this floor, together with four coins, were found considerable quantities of broken pottery, forming the largest assemblage of associated vessels yet recovered from the site. The group provides valuable material for comparison with other

[15]A full account of the work carried out in Trench LC between 1994 and 1998 is being prepared for publication in the final report.

vessels found in Trench LC and contributes new evidence for the dating of the various structures.[16]

The floor clearly belongs within a room that had a stone hearth to the right of a doorway that gave access to the room from the southeast (Fig. 11). The stone threshold of this door remains *in situ;* there is a recessed setting for the jamb to a swinging door cut into the left side of the threshold, while marks on the surface indicate that the door opened inward from right to left. A quantity of ash was found *in situ* inside the hearth, indicating that it was probably still in use when abandoned. Indeed, there was considerable evidence to suggest that the room was violently destroyed and that the destruction included a serious conflagration. Scattered across the floor in front of the hearth were found amounts of carbonized grain and pulses, while charred timbers and even pieces of textile were also recovered. These items were buried apparently as a result of the collapse of the roof and mud-brick walls of the building. Closely associated with the destruction level is the broken pottery.

The largest concentration of vessels was located next to the room's southeast wall (Wall 10; Fig. G) between the doorway and the hearth. These vessels had been crushed when the wall collapsed inward but as a result many of them could be restored either completely or in large part. They are evidently all of the same type, although they vary in size and specific features. All are plain, unglazed wares, presumably meant for domestic use. So far three examples have been reconstructed and are now more or less complete, while another four vessels have been partially restored (Fig. 12).[17] A considerable number of other fragments, however, remain to be pieced together. These vessels proved to be of a very unusual form, for they have multiple handles, usually seven, arranged in two rows around the shoulder and upper body. A further oddity is that they do not have a rim and mouth in the usual way of round-bodied pots. Instead, there is a series of holes or larger apertures at the top of the vessel, matched by other small holes in the flat base. These provide openings into a tall, cylindrical chamber that has been inserted into the middle of the vessel, so resembling to some extent the inner chamber of a samovar.[18] The whole construction of the vessels is thus rather complex and shows that the potters who made them were highly skilled. No two examples are exactly alike, but they must all have served a similar purpose. This, however, remains a mystery. Their placement next to the hearth may be significant, and it is tempting to suggest that they were used to heat liquids contained within the body of the vessel. Perhaps they were used in the preparation of some form of consumable; equally, it may be that they were employed in a manufacturing process. The large number of vessels found in this one spot indicates that they must have served some important function, while the fact that examples are now known from elsewhere clearly proves that they had a wide distribution and are not just a local phenomenon.

A probable date for this group of vessels, the like of which had not previously been noted at Amorium, is provided by two of the four coins found on the packed earth floor. One of these (SF3775) is a copper alloy follis of class 2 belonging to the reign of Nikephoros I, while the other (SF3779) is a class 1 follis of Theophilos. The pottery would thus appear to date to the early ninth century. At the same time the numismatic evidence would seem to date the destruction of the room to 829/30, and this brings the event within the time frame of the siege in 838.[19] It is hoped that samples taken for Carbon-14 and dendrochronological analysis will help to confirm this dating.

The finds from Trench LC6 also shed new light on the wider occupation history of the

[16] *AnatSt* 46 (1996): 106 and fig. 7.

[17] Two of these were put on display in the newly installed galleries of the Afyon Archaeological Museum in 1999. Similar vessels are said to be in the Kastamonu Museum (photographs shown to Chris Lightfoot in Ankara would seem to support the truth of this report). Another example, also recorded as coming from the Araç district of Kastamonu, was acquired by the Istanbul Archaeological Museums between 1937 and 1947; see *İstanbul Arkeoloji Müzeleri Yıllığı* 3 (1949): 32 and fig. 17 (this reference was kindly supplied by Marlia M. Mango).

[18] Three early Byzantine bronze *authepsae* have been found at Sardis; see J. C. Waldbaum, *Metalwork at Sardis: The Finds through 1974* (Cambridge, Mass.-London, 1983), 92–93, nos. 520–22.

[19] This would thus make it contemporary with the destruction of the triangular tower; see *AnatSt* 44 (1994): 110–11.

area. It was observed, for example, that the floor of the ninth-century room is at a higher elevation than the structures, excavated in previous years to its southeast, that have been dated to the tenth and eleventh centuries.[20] The explanation for this apparent anomaly must be that the area nearer the city gate was reoccupied in middle Byzantine times using some preexisting walls and structures. In addition, the modern ground level probably reflects quite accurately the contours of the area in Byzantine times. Behind the gateway the terrain slopes away quite noticeably to the south and east, while it climbs to something of a ridge just north of the excavation area. So it would appear that Trench LC contains three main occupation levels. The earliest and lowest is probably contemporary with the construction of the Lower City walls themselves. On top of these were constructed the buildings that were in use in the early ninth century and, in all likelihood, were destroyed during the sack of Amorium in 838. The final phase of occupation, covering the tenth and eleventh centuries, and terminating ca. 1067–71, saw the robbing of the fortification wall and the construction of new buildings, together with the repair and reuse of some of the less damaged structures near the gateway.[21] The room exposed in Trench LC6, however, was apparently buried under such a large pile of rubble that the area was completely abandoned, only to suffer further damage as a result of later stone-robbing activity.

The Lower City Enclosure (by Y. Arbel, with S. Lepinski)

Trenches XC and XBC are located approximately 300 m southeast of the Upper City mound within a large enclosure bordered by straight-sided ramparts on all sides (Fig. A).[22] The enclosure is located near the center of the entire site and not far from the Lower City Church, which must have been one of the most important buildings in Byzantine Amorium. During the 1996 season a small part of the southeastern rampart line was excavated (Trenches XA/XB), and a fortification wall was discovered, showing that either military or significant civilian structures were placed within the enclosure.[23] This assumption was supported by the results of a geophysical (resistivity and magnetometry) survey conducted in 1997, suggesting the existence there of considerable architectural remains.[24] As a result it was decided to concentrate excavation efforts over the next five-year period, beginning in 1998, on this previously unexplored part of the Lower City.[25]

Trench XC consists of a 10 × 15 m area, on a southwest/northeast orientation, opened 5 m northwest of the 1996 Trench XB. Trench XBC represents a limited excavation to connect these two trenches. The season's excavations revealed eight different structures and several separate walls, pits, and installations divided between seven different strata and substrata. Since both trenches are part of the same complex, separate discussion of their excavation will be avoided.[26] The conclusions drawn here are tentative and to some extent speculative, since they are based on only an initial survey of the finds. Most coins have already been identified, but the metal, the glass, and especially the ceramic evidence must still be analyzed in detail; thus the dating based upon them remains open to subsequent changes and

[20] *AnatSt* 41 (1991): 220–22 and fig. 4; *AnatSt* 43 (1993): 150–51 and pl. XXVII(a–b); *AnatSt* 45 (1995): 120; *DOP* 51 (1997): 297–98.

[21] *AnatSt* 41 (1990): 221–22, with abandonment associated with a coin hoard dated 1067–71.

[22] This report is based on that written by Yoav Arbel immediately at the end of the fieldwork season. To it has been added a separate report prepared by Sarah Lepinski on the southeast area of Trench XC. It has also been extensively edited and revised by Eric Ivison and Chris Lightfoot. While the factual descriptions, sequence, and dating of the various strata remain those of Yoav Arbel and Sarah Lepinski, it was thought necessary to add some conclusions to their interpretations of the various stages of occupation that are attested.

[23] *DOP* 52 (1998): 327–28 and 331–32, figs. B–D and 9–15.

[24] *DOP* 53 (1999): 336–37.

[25] The area within the perimeter wall was used until fairly recently as a field attached to a farmhouse, now almost completely obliterated, located near the northeast end of the enclosure. The land was, therefore, in private ownership, but cordial negotiations with the relevant villagers at the beginning of the 1998 season resulted in the purchase of the whole enclosure for the Turkish Ministry of Culture.

[26] Trench XC was excavated between 8 July and 3 August 1998, while Trench XBC was dug from 5 August to 10 August 1998. The work was carried out by a team of workmen, all from the village of Hisarköy, supervised by Yoal Arbel and Sarah Lepinski, assisted by Mücahide Koçak, Jessica Beattie, and Robin Wiggs.

refinement. This report presents the strata and their associated structures in reverse order of excavation, from the earliest to the latest in chronological sequence.

Stratum VII

Structure 1 The surviving walls of Structure 1 were some of the first features to appear in the trench, being discovered only ca. 0.30 m below the modern ground surface (Fig. H). The structure consists of Walls 02, 67, and probably also 20, all of which have been only partially exposed during the season.

Wall 02 extends for 9.70 m on a northeast-southwest course from the point where it appears from the northeast section of Trench XC to a right-angle corner with Wall 67. Its maximum preserved width is 1.10 m, although the original width remains unclear owing to the wall's present condition. It has been exposed to a height of 1.60 m, but the base of the wall and its foundations have yet to be uncovered (Fig. 13). The builders used a combination of masonry comprising medium-sized cut stones of local limestone (averaging 0.20 × 0.30 m) with a band of brick courses, a style that can be found in several other large structures at Amorium—the triangular tower of the Lower City fortifications, the Large Building excavated in 1988–89, and the Phase I walls of the Lower City Church.[27] At its northeast end the outer face is stone-lined and was probably plastered over originally. Its inner face is made up of a broad band of brick courses, reaching to the very top of the preserved height of the wall. The wall is capped with a line of limestone blocks, forming a simple architrave with a cavetto molding, bonded to the masonry below by a layer of rough mortar. Seven of the architrave blocks have been uncovered so far; six are still *in situ* on the wall, while the seventh had been removed and reused in later construction. The blocks show signs of both wear and damage; for example, several of their corners are broken off. The largest slab is also the best preserved and measures 1.70 m long and 0.60 m wide. Despite the variations in size, it is safe to assume that all of the blocks were carved at the same time and were intended for use as the architrave of Structure 1. The mortar is thickly applied and is white, with an aggregate of small flat stones and bits of broken tile and brick. Wall 02 remained in use for a far longer period of time than the building it originally served, probably until the very last stages of the Byzantine city's occupation, as testified by the crude attempts to patch up parts of the wall where the original masonry and brick courses had been lost. A hole, cut into the edge of one of the architrave blocks and meant for the tethering of animals, is evidence for a very late adaptation of the wall, when all but the very top part was already buried.

Wall 67 meets Wall 02 to form the south corner of the building with a well-built 90-degree angle, from which it runs northwest as far as the northwest section of the trench (Fig. 14). Its construction combines masonry and brick, similar to Wall 02, and further similarities exist in the brick-built inner face and the use of gritty mortar. The significant difference between the two walls is the incorporation within Wall 67 of a brick arch. The top section of the arch is missing, but to both sides several radiating layers of the arch's springing have survived despite considerable later construction activity. Whether the arch is a single element or one of a series remains unclear. Similarly, it cannot yet be determined whether it was built to buttress or support part of the architectural composition of the wall or if it served as an arched passageway into the building. There is no trace of slabs for an architrave or other ornate architectural elements in Wall 67.

A seemingly large, but poorly preserved, brick wall exposed at the northern corner of Trench XC (Wall 20) may be part of Structure 1. It runs from the northwest section of the trench toward the southeast, as if it was originally joined to Wall 02 at a 90-degree angle. That this was so is also possibly indicated by a ragged brick edge protruding from the latter wall toward Wall 20. As Wall 20 remains partly buried in both the northwest and the northeast balks of the trench, little else is presently known about it, although its style, angle, and elevation correspond well with the other two walls of Structure 1. If future excavation establishes that it belongs to this structure, it may represent the third side of a large room within the interior space, leaving only the position of its northwest wall to be determined.

Later activity both within the building and

[27] *AnatSt* 44 (1994): 110; *AnatSt* 40 (1990): 211.

immediately outside its walls has obliterated much of the evidence for its original use, leaving the structure little more than a shell. However, the presence of numerous fragments of water pipes and marble floor and/or wall revetment within the building may be of significance, especially as in previous seasons no evidence for the use of water pipes at Amorium had ever been found in any of the trenches. In addition, the surface of many of the thin marble slabs is encrusted with lime scale, implying that they were used in a room (or rooms) where flowing water was present.[28] The evidence hints at the presence of a bath or latrine in the immediate vicinity of Trench XC. Taking into consideration the fact that the interior face of Wall 02 and what remains of Wall 20 are made of solid brick, it is tempting to suggest that Structure 1 itself was originally an insulated bathing room.[29]

However, it should be noted that the layers excavated in and around the building all belong to later activity or fill later introduced and are not directly connected with the original use of the building. Consequently, no clear answer can be given at this stage to the question of the structure's primary use beyond stating that it clearly served a public function. Likewise, until the foundation courses of Walls 02 and 67 have been reached, it is impossible to determine the exact stratigraphic position and surviving height of the building. Nevertheless, the existence of the arch in Wall 67 and of the architrave blocks on top of Wall 02 indicates that Structure 1 survives almost to the full height of an entire story, while comparanda for the masonry of Structure 1 both at Amorium and elsewhere strongly suggest that the building was constructed in the fifth to sixth centuries.[30]

[28] Compare some of the marble revetment found in the late antique *latrina* at Magnesia ad Maeandrum; see O. Bingöl, *Magnesia on the Meander* (Ankara, 1998), 59–63.

[29] Compare the Baths of Zeuxippus at Constantinople, which fell into disuse in the dark ages and were subsequently converted for other uses; see *ODB* 1:271–72, s.v. Baths, and 3:2226, s.v. Zeuxippos, Baths of.

[30] One may compare this construction technique with one commonly used at Constantinople from the late 4th through 6th centuries; see C. Mango, *Byzantine Architecture* (London, 1986), 9–10; J. Bardill, "The Palace of Lausus and Nearby Monuments in Constantinople: A Topographical Study," *AJA* 101.1 (1997): 73–74 and fig. 4; R. M. Harrison et al., *Excavations at Saraçhane in Istanbul*, vol. 1 (Princeton, N.J., 1986), 18–26; R. B. K. Stevenson, ed., *The Great Palace of the Byzantine Emperors*, vol. 1 (Edinburgh, 1947), chap. 1, "The Buildings," by G. Martiny, 3–4.

Structure 1 may, therefore, be a survivor from the late antique city, which was extensively reused and adapted during the middle Byzantine period.

Stratum VI

Reached at the close of 1998 excavations, Stratum VI is represented by a single wall (Wall 84) within Structure 2 and by two deep fill layers (Contexts 73 and 97) that produced a ceramic assemblage distinctly different from and seemingly earlier than that recovered from the later layers exposed above it.

The top of Wall 84 (running northwest-southeast) appeared at an elevation of 929.87 m, a level that corresponds to the lowest foundation courses of Structure 2, one of three buildings associated with Stratum IV, which is discussed in detail below (Fig. H). Measuring 0.70 m wide, Wall 84 is a sturdy, well-built feature, despite the fact that it is made of irregular and roughly cut stone masonry (Fig. 15). The full extent and nature of Wall 84 is not yet known, nor has its stratum been reached. Its northwest end was covered by a thick layer of debris and rough mortar, possibly the remains of a floor laid in the later Structure 2, while its other end remains buried within the trench's section. Nonetheless, the relative elevation of Wall 84, together with its different dimensions and style, makes an earlier dating more than probable. To summarize, the stratigraphy suggests the following conclusions. (1) Wall 84 lies beneath Structure 2, which clearly predates the last phase of Byzantine Amorium in the late eleventh century by some considerable time. (2) Attached to the southwest face of Wall 84, under the fill inside Structure 2, excavation reached a clearly defined burned layer (Context 97). This layer may relate to the destruction of the building of which Wall 84 was a part. (3) The nature of the building of which Wall 84 formed part cannot be ascertained because of its poor state of preservation, although its appearance befits a public, rather than domestic, structure. The building may have been destroyed by fire, after which it was partially dismantled and buried. Wall 84 and Context 97 may, therefore, be regarded as belonging to one of the earliest phases in Trenches XC and XBC. It remains unclear, however, whether Wall 84 was constructed as

early as Structure 1, tentatively assigned to the fifth to sixth centuries (see above). Further excavation beneath Structure 2 may clarify the date and function of the building represented by Wall 84.

Stratum V

Excavations in 1996 had revealed three stone troughs in Trench XB; in 1998 a fourth was excavated in Trench XBC. These four troughs were laid out end to end, in a line oriented northwest to southeast, running from Trench XA to Trench XBC (Fig. 16). The troughs stood against the east face of an unmortared rubble wall, on the same orientation, which was partially robbed away. A fifth trough (Context 79), measuring approximately 0.90 m long and 0.10 m wide, was also uncovered this year in Trench XC. This trough lies at a lower elevation, but it clearly follows the same alignment as the other four, and so probably belongs to the same construction. The function of these shallow troughs remains uncertain, but they may have been used to dispense water. Only the upper surfaces of the trough (Context 79) were excavated, and the surface upon which it stood was not reached. The basin of the trough was broken, and its interior was filled with rubble. This rubble may be attributed to the collapse of Wall 88, which stood adjacent to the trough, on a northeast-southwest orientation. The uppermost surviving course of Wall 88 was exposed, showing that it was constructed of unmortared cobblestones, rubble, and *spolia,* including a late antique slab fragment incised with a Latin cross. Context 74, which lay over and around Wall 88 and the trough, consisted of orange clay, probably from the wall's collapsed mud-brick superstructure. It may be noted that a similar layer of tumbled mud-brick was uncovered in 1996 next to the trough that is partially buried beneath the enclosure fortification wall in Trench XB.[31] The comparable Contexts 93 and 89, which lay beneath Context 74 to the east and west of Wall 88, may also have been associated with this collapse.[32] Further excavation is needed to determine whether Wall 88 formed part of a larger structure, but it may represent a return of the wall exposed in Trench XB, as suggested by the alignment of the troughs. If so, the line of troughs presumably flanked a street or an open area to the east.

The line of troughs is clearly an important feature for the chronology of this part of the site. These troughs flanked an open area of undetermined dimensions, perhaps a courtyard or a street, which was later buried beneath the foundations of the enclosure fortification wall. Two late seventh-century coins were found within Context 74, the layer of collapsed mud-brick and debris that covered the remnants of Wall 88, and the trough (Context 79). A Carbon-14 sample retrieved from a sealed pit adjacent to the trough in Trench XA (just outside the enclosure wall) provided a date between A.D. 395–720 and A.D. 735–760.[33] This evidence, together with the pottery and glass assemblages from these contexts, would appear to suggest a date for Stratum V in the dark ages rather than in the middle Byzantine period. This evidence also demonstrates that the enclosure wall was erected after the end of Stratum V, for the enclosure wall not only buried the remains of Stratum V, but was also built on a completely different orientation (northeast-southwest) to the previous urban pattern, implying that a radical transformation had taken place.

Stratum IV

Three major structures can be associated with this level. Structure 1 was adapted for reuse, while Structures 2 and 3 were apparently new developments with similar styles of construction and relative elevations (Fig. H). Although these structures probably served different purposes, their general layout leaves us in no doubt that they formed part of a single complex. They also represent the principal occupation phase as yet identified in the trenches, although all three structures were reused in the periods of Strata III and II.

[31]The impression is thus gained that some buildings made of mud-brick existed in the area immediately inside the circuit wall of the enclosure. A parallel may also have been found in Trench LC6, where collapsed layers of mud-brick are visible in the section. It was, of course, common for Turkish town houses to be built of mud-brick until the late 19th century.

[32]One may note the discovery of a follis of Constans II (SF3832) in Context 89, a surface layer associated with Context 88.

[33]*DOP* 53 (1999): 337.

Structure 2 This structure is the best preserved feature in both trenches. Three of its surrounding walls have been exposed, as well as a possible connection to another contemporary structure, identified as Wall 15, which is little known at this stage.

The structure is possibly a square but more likely a rectangular building, built with a southwest-northeast alignment. Its northwest wall has been completely excavated, while the northeast and southwest have been only partially cleared. The southeast wall remains buried beyond the trench. The foundations of Structure 2 are 1 m thick, but the interior faces of the superstructure are stepped back some 0.40 m, thus reducing the thickness of the upper walls to 0.60 m. This superstructure is further strengthened by engaged half-piers in the corners of the room that extend the full width of the foundation. The massive nature of this construction strongly suggests that Structure 2 had more than one story.

Structure 2 has a mortared rubble core faced with roughly dressed blocks of limestone (blocks on average ca. 0.30 × 0.50 m). These blocks are bonded with coarse white mortar, which is applied liberally throughout. Mortar impressions of a brick course, now destroyed, are visible on the topmost surviving surface of the walls. This evidence, together with large quantities of brick found adjacent to the structure, strongly suggests that alternating courses of brick and stone were used in the superstructure. Attention had also been paid to the aesthetics of the structure's exterior. The exterior face of Wall 14 partially preserved a thin mortar facing that had been incised with lines in imitation of square and rectangular ashlar blocks (Fig. 17).

Structure 2 could be entered from at least two sides. Entrances were found both in the southwest wall (Wall 51) and between two parts of the northeast wall (Walls 03 and 15). These doorways roughly face each other, although minor differences exist in their dimensions; the northeast entrance is 1 m wide, while that on the southwest side measures 1.10 m across. Although part of the northeast side of Structure 2, Wall 15 was clearly originally part of an adjacent building or a different section of the same structure. From its meeting point with Structure 2, serving as part of the northeast entrance, this wall projects on a northeast course but disappears after only ca. 1 m owing to later dismantling or robbing. Together with Wall 06 in Trench XBC (Fig. I), it creates a corner to a vanished room or structure immediately north of Structure 2. Despite the obtuse angle that it forms with the entrance and Wall 03 of Structure 2, the foundations of both walls are keyed together in a manner that indicates that they belong to the same phase. The dismantling of Wall 15 provides a sectioned view of the Stratum IV wall, revealing outer faces of block masonry with a core of rubble and fieldstones mixed with a large amount of coarse white mortar.

Although excavation reached the foundations on the interior of Structure 2 and despite the evidence of the entrances, no clear sign of any earthen or flagged floor was found (Fig. J). Deep fill layers containing typical waste materials, such as broken bricks and tiles, scattered pottery, animal bones, as well as nails and fragments of glass and bronze artifacts, were excavated from the foundations to the uppermost architectural elevations (Contexts 07, 41, 70, 73, 78, 87, and 91) with little to distinguish between them. The amount of rubbish within the structure is smaller than that found in the layer of fill outside it, but the nature of the material is similar. Although no earth, tile, or stone floors could be detected in the sections, a mass of stone debris topped by hard mortar, partly covering Wall 84 of Stratum V, was found at the level of Structure 2's foundations. This feature covers roughly a third of the excavated interior space of the building, forming an irregular shape that runs southwest-northeast in front of Wall 14. The dense and hard matrix of this feature, as well as the mass of rubble underneath, makes the possibility of mistaken removal of surrounding parts during excavation highly unlikely. In addition, the feature's elevation and fragmentary appearance precludes its identification as part of a floor belonging to Structure 2. The possibility exists, however, that this rubble and mortar mass was utilized as support for a floor of a more ephemeral nature, perhaps of removable tiles or wooden planks, that was later entirely removed.[34]

[34] In this respect one may compare the so-called "Large Building" that was excavated in 1988 and 1989. Here, too, no trace was found of interior floors; see *AnatSt* 39 (1989): 172. The fugitive nature of floors in tile or mortar has

The following conclusions may be drawn regarding Structure 2. (1) The building is aligned with Structure 1 and stands in close proximity to it, with only a narrow passage, measuring 1.30 m wide, between them. The construction of Structure 2 on the same alignment as Structure 1 implies that the latter was still an important feature of the site and that its walls still stood to a significant height. Although excavation within Structure 1 did not reach below the level of Stratum IV, it can be assumed that its first story was already partially buried, since the foundation of Structure 2 stood at a much higher elevation and is clearly a much later construction. Both buildings formed part of a larger complex of structures that combined both new and earlier architectural elements, the latter presumably having undergone some alteration and refurbishment. (2) Structure 2's solid walls and massive foundations point to the likelihood that it had more than one story. As such it may have had the appearance of a tower or multistory block. Later activity has left little to help in establishing a credible identity in either Structure 1 or 2 in the period of Stratum IV, and so these questions must remain open.

Structure 3 The limited exposure of this building gives little indication of its form and function. Structure 3 shares the same relative elevation as Structure 2 and was built up against Structure 1. The single wall so far uncovered (Wall 80) abuts Wall 67 of Structure 1 at a 90-degree angle ca. 1.60 m northwest of the corner of Structure 1, and then continues toward the southwest until it disappears into the southwest balk of the trench. Its maximum length, as exposed, is 5.10 m, and it has a width of 0.70 m. Owing to the extensive use of this part of the trench in later occupation phases, Wall 80 is poorly preserved at this level, and only fragments of its northwest face remain. Apart from a short gap, the southeast face of Wall 80 is in a better state of preservation. Like Structure 2, Wall 80 is well constructed of limestone blocks with a rubble and mortar core. At a distance of 3.90 m from its corner with Wall 67, the thickness of Wall 80 increases from 0.70 to 1.30 m, creating a shallow recess some 0.60 m deep, the corner of which partially preserves a fine plaster facing (Fig. 18). This plaster had been smoothed and decorated with incised squares imitating ashlar blocks. This decoration is reminiscent of the treatment on the outer face of Wall 14 of Structure 2, although in the case of Wall 80 the workmanship is finer and more careful. No comparable example for this type of wall facing has yet come to light elsewhere at Amorium.

To conclude, the evidence implies that Structures 1–3 belong to the same complex of buildings in use during the period of Stratum IV. The masonry of Structures 2 and 3 is closely comparable to that of the enclosure wall itself, and all these structures share a common northeast-southwest alignment, implying a relationship between them.[35] As discussed above, the enclosure wall postdates the eighth-century occupation associated with the troughs, and its construction marked a radical departure from the previous urban pattern. No precise date is yet fixed for the fortified complex, but its construction certainly stamped a new identity on this part of the Lower City. The extensive nature of this transformation may even imply that the enclosure was built following the sack of 838, which has been attested elsewhere in the Lower City. If so, then this fortified area, located outside the defenses of the renewed Upper City, may have served a military function, perhaps as a base for the thematic forces after the reconstruction of Amorium.[36]

Stratum III

Neither Structure 2 nor 3 shows any signs of violent destruction, nor indeed does this phase of Structure 1. No ash or burned layers were found, nor was there any evidence of collapse debris, containing small finds that might be associated with a violent event. Rather, the evidence points to a process of slow decay owing

been noted elsewhere; see e.g., *DOP* 51 (1997): 299, Trench TT; *DOP* 52 (1998): 328 and fig. B, Trench XB; and the fragment of floor found in 1998 at the northeast end of Trench XBC (Fig. I).

[35] Compare the masonry of the inner face of the enclosure wall as exposed in 1996; Lightfoot, "The Public and Domestic Architecture," 320 fig. 11.

[36] *DOP* 52 (1998): 328 and 335; Lightfoot, "The Public and Domestic Architecture," 309.

to poor maintenance or simple neglect. Nevertheless, the next major phase marks a significant change in the nature of occupation in the area, which included the end of the public use of the principal structures found in Stratum IV. Stratum III represents a far humbler phase of occupation characterized as one of small-scale industrial activity. While the main walls of the principal buildings were left at least partially standing, other walls that were now deemed unnecessary were dismantled and removed, and fill was brought in to level debris and pits for the forming of new floor surfaces. Likewise there is a marked difference between Stratum III and the later Stratum II both in terms of their elevations and with regard to the general appearance of the area. Stratum III, although probably utilizing building material from the earlier strata, displays a good level of workmanship and construction; its installations are basic but neat. The surfaces are hard-packed and even, and an effort was made to maintain a clear spatial division between different zones of production or activity. Stratum III appears in both trenches, XBC and XC, although there was a clearer distinction from Stratum IIb in the larger Trench XC.

Evidence for small-scale industrial production was found mainly in the western half of Trench XC. In the northwest sector, evidence for industrial activity was detected, although no installations relating to the production process itself were found. The southeast part of Trench XC includes three phases of surfaces, pits, and installations associated with the long rubble wall (Wall 33; see above) as well as with the secondary use of structures from Stratum IV. All three phases correspond roughly in elevation as well as general layout and character, and, despite some obvious alterations during the stratum's time frame, they constitute parts of a single, general phase of occupation.

Stratum III/SE Excavation revealed a rubble wall, Wall 33, oriented southwest to northeast, the western end of which abutted (and so postdated) Wall 03 of Structure 2. The area between Structures 1 and 2 was thus divided into two unequal segments by Wall 33. That on the southern side of Wall 33 may have been substantially higher than the narrower area to the north, but the western portion of the area north of Wall 33 was disturbed, and a good surface layer in this area was not detected. This may be explained by the construction of a possible step or ledge (W99) that spans a distance of 1.30 m between the northern face of Wall 33 where it abuts Wall 03 and the southern face Wall 02. This line of stones was therefore inserted at some point after the construction of Structure 2 in Stratum IV (Fig. H). The impression that both Walls 33 and 99 served as some sort of terrace wall that created a passage at a lower elevation in front of Structure 1 is strengthened by the accumulation of material (Contexts 90 and 86) found on the other side of these walls. These contexts produced two late seventh-century coins.[37] The higher elevation of the living surfaces south of Wall 33 is also indicated by the modifications made to Structure 2. The original threshold of the northeast entrance was blocked with a rough stone-faced wall, constructed in a style that corresponds to other features in Stratum III, although it is also possible that this alteration was made during Stratum II. This may have represented not a complete blocking of the doorway but rather a raising of the threshold to match the surrounding ground level.[38] Meanwhile, on the north side of Wall 33 a shallow pit, Context 42, was dug down through Context 74 onto the top surface of Wall 88. An entire ox skull had been deposited in this pit (Fig. 19), but the skull was by no means the only animal remains found in Stratum III/SE. In fact, large quantities of animal bones were recovered on both sides of Wall 33. At a later date Wall 33 was also extended eastward (Fig. 13). The new section of wall follows a gentle curve and is of poorer workmanship than the rest of Wall 33. Nevertheless, since at the east end it is buried below Wall 25 of Structure 5 belonging to Stratum II, its construction must be placed within Stratum III.

Stratum III/W In spite of the correspondence in elevation between the Stratum III activity and the rather dense architectural re-

[37] A follis (SF3831), dating to the first year of Constans II's reign, and a half follis (SF3834) with a triangular flan, reminiscent of issues of Justinian II; compare *DOC* 2.2:586 (21a–b, 24, and 25).

[38] Two doorways in the Large Building excavated in 1988 were similarly blocked and reopened with a higher threshold; see *AnatSt* 39 (1989): 172 and pl. XLVI(b).

mains from the following stratum, evidence of the former can be clearly distinguished in the western sector of the trench. Evidence for industrial production, mainly in the form of scattered lumps of vitreous slag, has been found in many different areas of the site.[39] The discovery in this part of Trench XC of a hearth shows that some of the actual production took place here. The two-part hearth (Context 92) was found over a hard-packed surface made of dense soil mixed with decayed mud-brick material. Vitreous slag was found scattered over this surface, with a shallow but distinct accumulation of ash in the southwest part. The production hearth had a semicircular shape (0.90 m in diameter) and extended as far as the exterior face of Wall 14, while a roughly square feature resembling an uneven stone platform (measuring 1 × 1.10 m) was located nearby to the west. A number of large rim fragments from pithoi were found near the square feature and may have served for its delineation. While large bits of slag, broken bricks, and stones were found to a depth of 10–15 cm in the circular hearth, the square feature had only slag remains adhering to its surface.

The surrounding floor surface practically disappears northeast of the hearth. Production waste, including slag and ash mixed with broken brick and tile, was concentrated here (Context 95) alongside a deep layer of soft gray-green material (Context 98), which was left unexcavated this season. This layer may represent some form of industrial residue, but it is different from other concentrations of waste that have been found. An alternative interpretation may point to this layer as being a dump of unused raw materials. Also noted in the area near the hearth was an unusual concentration of windowpane fragments. Although such fragments were found throughout the trench, this area was distinguished by the sheer number of fragments, their relatively large size, and their proportion compared to the other glass finds (vessel and bracelet fragments, etc.).

Discarded brick fragments were common in this sector of the trench; they are found not only within the production waste but also over large parts of the general layer. The fragments found within the waste may have served a secondary use as part of the hearth structure, just as ancient bricks have been used until modern times for other open-air fire-related installations such as bread ovens. The vulnerability of the bricks to the intense heat of the furnace would demand their frequent replacement. While shattered fragments could be discarded along with the slag, new bricks could be readily found, for they are in abundant supply at Amorium. Broken bricks and tiles were also used extensively for sealing or capping parts of the industrial layers, particularly old concentrations of production waste. A particularly dense concentration of brick (Context 76) was exposed to the northeast over just such a pile of industrial waste (Context 95). Placed carefully and evenly, it leveled the ground over the waste, raising it to a similar elevation as the general surface and hearth to the southwest.

Situated between the surviving Stratum IV Structures 1, 2, and 3, the area now used for industrial production does not appear to have required much new building. As can be seen at the western corner of Structure 2, patching work was carried out where necessary (Fig. 17). The only wall clearly added is Wall 82, seemingly a short retaining wall or step leading from here to the slightly higher ground of the open areas in the southeast sector of Stratum III. The step is neatly placed between the corner of Walls 02 and 67 of the Stratum IV Structure 1 and Wall 14 of Structure 2 of the same stratum.

Another wall that possibly belongs to this industrial area is Wall 81, two sections of which were exposed running on a northeast-southwest alignment underneath the Stratum IIb occupation near the western corner of the trench. Although the wall is clearly earlier than Stratum IIb, its width (0.70 m) and quality of construction make its relationship to Stratum III uncertain.

Stratum III/NW The large number of vitreous slag deposits and dense concentrations of ash found in the northwest sector of the trench suggest that, like the western sector, this area was used for industrial activity during the Stratum III phase, although no clear evidence of

[39] It is hoped to carry out the analysis of examples of slag in the near future in order to ascertain the nature of this industrial activity.

actual production was discovered. The remains here included a pit sunk within a floor surface of packed earth with related retaining walls and an ash layer. Although remains from both subphases of Stratum II were found in close proximity (both horizontally and vertically) to these features, it was not difficult to distinguish the two strata as a result of the evidence provided by the western sector of the trench as described above.

The packed earth surface was of irregular shape and measured roughly 2 × 1.50 m. Its builders saved themselves the trouble of leveling the accumulation of debris by building a small retaining wall (Wall 102) that helped elevate the designated surface over its uneven environment (Context 56) by some 0.30–0.40 m. The floor was partially covered by a thin layer of fine ash. The pit (Context 23) is located roughly in the center of the floor. It has a rectangular shape, with rounded corners, measuring 0.90 × 0.60 m and reaching a maximum depth of 0.65 m. Its rim, lined with mud-brick, was slightly elevated above the surface of the floor, while its inner edges and floor are lined partially with stone but mostly with mud-brick or clay. Large lumps of vitreous slag were found on top of the pit, although the pit itself hardly contained any, for its fill comprised mainly broken brick, stone, some pottery shards (including pithoi fragments), and earth mixed with ash. Although contemporaneous with the industrial activity in the area, the main function of the pit seems to have been the disposal of waste material.

Adjacent to the pit to the northeast was an ash layer (Context 49) 0.20 m deep and stretching 3.50 m further to the northeast. This ash layer constitutes another concentration of waste, although it possibly represents one that is earlier than the industrial phase since no slag was found here, whereas large quantities of broken pottery and animal bones were present. A plastered floor on a similar level as the elevated surface described above was laid over part of this ash layer to the southeast, while to the northwest it bordered another raised stone platform, supporting a rectangular structure (Context 54, measuring 3.20 × 0.60 m), possibly used for storage. The platform protruded ca. 0.50 m northwest of the installation wall (Wall 101).

Both the raised surface related to the pit and the southwest part of the ash layer are flanked to the northwest by a 0.20 m high retaining wall (Wall 47), running roughly northeast to southwest and disappearing at the point where it meets the plaster floor. Wall 47 supports a platform made of carelessly arranged small fieldstones mixed with a packing of earth, and, despite its rough construction, it survived probably to its full extent.

In Stratum III the public function of the area is replaced with localized industrial and, possibly, domestic activity. The abandoned buildings of Stratum IV, especially Structure 1, were partly gutted, while their outer walls remained to be incorporated into the new layout. Few new walls were added, but considerable attention was given to the construction of those that were. The precise nature of the industrial activity has not yet been ascertained; several different crafts may have been represented, as befits the character of an area of small-scale workshops. Although part of the complex remains unexcavated, it is unlikely to have been much larger than what has already been uncovered. Since it lies beneath the last stage of the site's occupation in the late eleventh century, Stratum III can probably be dated somewhere between the middle of the tenth and the early eleventh century.

Stratum II

Stratum II represents the last phase of Byzantine occupation at Amorium before the abandonment of the site in the late eleventh century. Structures 4–7 can be associated with this phase, while the area bounded by Wall 02 of Structure 1, Wall 03 of Structure 2, and Walls 25, 24, and 29 of Structure 5 apparently served as an open area (Fig. H). The division of Stratum II into two subphases, Stratum II(a) and II(b), results from the appearance of a small number of building elements overlying others, all of which clearly belong to the same general phase of occupation. The time difference between Stratum IIa and Stratum IIb is probably small, since most structures of this stratum were roughly built and easy to dismantle or readapt as circumstances demanded. Of the two subphases, the earlier, Stratum II(b), is far more evident, and it is

likely that most of its structures continued to be used at the later and final stage of occupation in Stratum II(a).

Stratum II(b)

Structure 4 Although roughly built, this is the most complex structure discovered in the trench, and more of it probably still remains unexcavated in the sections. Structure 4 had at least three parts. In the northeast area of the trench it comprised an unusual stone-filled feature (Context 18), measuring 2 × 2 m. This feature was divided internally into two unequal rectangular shapes, also densely packed with stones. Their use could not be determined. Structure 4 made much use of building materials (principally stone) robbed from Wall 02, indicating that this major wall had fallen into disrepair by that time. The *spolia* included at least one architrave block that had been removed from the top of the adjacent Wall 02 of Structure 1 and incorporated into Structure 4. Two walls connect Structure 4 to other elements: Wall 09 to a yet undiscovered building in the northwest section and Wall 62 to at least two rooms at the southwest end. While Wall 09 may belong to the earlier Stratum III and here is probably in secondary use, there is no doubt that the rooms to the southwest are contemporary with Context 18. While the northwest room is partly buried in the northwest section, the southwest room, measuring 2 × 2.40 m, was completely excavated. Its walls used fieldstones combined with *spolia* blocks from earlier buildings. The standard of construction is generally poor. Fill placed over the earlier production area separates this phase from Strata III, and it is clear that the new building had no connection with the earlier industrial activity. Additional buildings may have been associated with Structure 5, as suggested by the remains of a wall (Wall 64, possibly forming a corner), 1 m south of the south corner of the southwest room. This room had a packed earth floor, while the remains of a staircase, leading to an upper story, were found in the west corner.

Structure 5 This feature, of which only part was excavated, is situated at the southeast end of Trench XC. Structure 5 was built partially over the demolished remains of the eastern extension of Wall 33, which had been buried beneath Contexts 72 and 77, a thick layer of orange mud-brick and tile fragments. The bottom of Context 72 was at approximately the same height as the top of the projecting foundation course on the eastern face of Wall 03. The eastern extension to Wall 33 had also been partially robbed away (Context 51).

Structure 5 was of poor construction, using as building material *spolia* blocks and architectural elements as well as at least one large stone basin together with fieldstones. It probably represents an area of domestic occupation (Fig. 20).[40] The structure's internal dimensions are 1.80 m from southeast to northwest, while 1.50 m was exposed of its width. The rest of Structure 5 remains buried in the northeast balk of the trench. A possible entrance was detected at Wall 28, although the gap may represent a missing part of this particularly crude wall, of which only a reused architectural slab (possibly an architrave block) and an overturned stone basin remain *in situ*. Within the structure there was a packed earth floor (Context 21). A layer of fill, ca. 0.30–0.40 m deep, rich in domestic refuse material such as animal bones, broken bricks, scattered ash, and pottery shards, separates it from the nearest Stratum III surface below. No significant small finds were discovered in or around Structure 5. What seems to be the beginning of another wall on a southeast orientation, running from the structure's south corner, disappears after ca. 0.40 m. Remains of a wall (Wall 27) oriented north-south were also discovered on a similar elevation to Structure 5, ca. 1 m to the southwest, but no other evidence connects them.

[40] On a brief visit to Amorium in November 1998, Chris Lightfoot was shown a well lying close to W28 and situated between W25 and the trench balk. This feature had first been noticed by the site guard, Bilal Eryiğit, during one of his regular tours of inspection around the site. It had been concealed below a flat limestone slab, used as a capping stone on top of the circular wellhead. The well, still containing water at a depth of some 6–8 m, was stone lined, and a cursory inspection showed that at least the upper courses of this lining comprised architectural fragments (a baluster post was immediately recognizable). Structure 5 would thus appear to be an open-air enclosure, the walls (W28, W25, and W 24) serving to separate the well from the large open area to the southwest.

Structure 6 This was a single room of small dimensions, measuring 1.20 × 1.40 m, the northeast wall of which was completely missing. The walls (Walls 31, 29, and 30) on the southeast, northwest, and southwest sides were built of relatively small fieldstones (with an average size of 0.15 × 0.25 m) and survived in places (Wall 31) up to five courses in height. The room had a packed earth floor (Context 36), which produced no significant finds. Part of the structure remains buried in the northwest section. The total disappearance of the northeast wall was probably due to the reuse of its stones for the construction of Structure 8 of Stratum II(a), which was built directly over Structure 6.

Structure 7 Located in the west corner of the excavated area, Structure 7 comprised a small, crudely built, irregularly shaped building or installation, of which two walls were exposed. One of these (Wall 100) followed a slightly curved course forming the southeast limit of the structure, while the other (Wall 71) ran in a straight line from southeast to northwest along its northeast side. The interior so far exposed measured 0.80 × 1.40 m and contained no significant finds. No evidence has been found to suggest the precise use of Structure 7, but it may have served as a small storage area or animal pen. The floor was made of tightly packed stones, most probably the surviving top course of the west part of Wall 81, described above in Stratum III.

Stratum II(a)

Very few changes occurred between the previous substratum and Stratum II(a), and it is likely that most of the earlier structures and installations remained in use in this final phase of occupation. Among the alterations and additions made at this time, the most notable is probably the partial dismantling and burial of the Stratum II(b) Structure 6, over which the only well-defined structure of Stratum II(a) was built. This was Structure 8, measuring 2 m square and divided into two rectangular units (Contexts 08 and 17).[41] Its walls were constructed mainly of small fieldstones, surviving to the height of a single course. It seems unlikely that they could support a substantial superstructure. Both units had floors of packed earth and produced no significant finds. No clear indication was found as to the building's purpose.

All other elements attributed to this stratum could also be part of Stratum II(b), but their situation, construction style, and elevation suggest a slightly later date. One such feature is Wall 60, measuring 1.40 m in length and comprising a line of seven stones built over installation Context 54. Another is a surviving patch of floor surface, made of rough mortar and measuring 1.20 × 0.80 m, that was exposed near the northeast section of Trench XBC (Context 04). The only other surface that can be attributed to this stratum was found near the northeast section of Trench XC (Context 19). Made of packed earth and clay mixed with small pieces of brick, it was found overlying the remains of Structure 5 belonging to Stratum II(b). To the southeast it bordered an ash layer (Context 10), possibly the traces of destroyed pits. One surviving pit (Context 16), measuring 0.80 × 0.50 m, was found dug into this surface near where it borders on the layer of ashy soil. Apart from ash and burned materials, nothing was found within the 0.24 m deep feature.

One wall (Wall 83), found between the two rooms of Structure 4, may also belong to this later phase, Stratum II(a), since part of it seems to be built over Wall 63, which is definitely part of the original Stratum IIb construction. However, since Wall 83 fits well in the overall plan of Structure 4, it is more likely to be a feature belonging to Stratum II(b). The poor preservation of Wall 62, which has an almost identical alignment to Wall 83, may point to the possibility that Wall 83 replaced Wall 62 at an intermediate stage in the lifetime of the structure. Assuming that the structure continued to function throughout both phases of Stratum II, this alteration may have coincided with Stratum IIa.

The part of Trench XC that lies between Structures 1 and 2 continued to be used as an open area during the final phase of occupation. To the south side of Wall 33 a number of

[41] SF3766, identified as a signed follis of Constantine X (1059–67), was found in Context 08.

living surfaces (Contexts 44, 52, and 37), dotted with circular pits (Contexts 45, 46, and 53), were excavated.

Stratum II: Fill layers Thick layers of fill, which appeared shortly after the removal of the topsoil, were encountered in Trenches XC and XBC. Two types of fill were noted: (1) An earth fill, mixed with deep layers of reddish-brown soil and clay, densely packed with typical domestic rubbish such as animal bones, nails, pottery shards, broken brick and tile, glass fragments, and pieces of bronze or copper objects. This type of fill appears in all of Trench XC apart from the northwest sector and across the whole of Trench XBC. (2) A dense fill, made up of layers of stones and rubble, containing little soil and relatively few finds in comparison with the first type of fill. This fill was found mainly in the northwest part of Trench XC.

Both types of fill seem to have been intentionally introduced, as there are no considerable ruins or higher ground in the close vicinity from which the fill might have been washed in over a prolonged period of time. Pockets of air found between the stones in the fill in the northwest sector would seem to support this hypothesis since natural wash-in would in all likelihood have filled the gaps with soil. The purpose of this activity may have been leveling of the ruin field within the enclosure for agricultural use in fairly recent times.[42]

To conclude, after periods of public and industrial activity, Stratum II presents a picture of domestic occupation, with a clear change in use and construction methods. The structures belonging to both subphases are built with only basic attention to the sturdiness of the buildings, and none to aesthetic considerations. This does not necessarily imply an economic decline, but it does show that the area was adapted for more modest purposes. This makes a striking contrast not only to the affluent nature of Stratum IV but also to the humbler but well-planned and dynamic Stratum III. Stratum II represents the final phase of occupation before the Byzantine abandonment of Amorium. The evidence of coins and other finds clearly indicates that this occurred in the late eleventh century—the recovery of a signed follis of Constantine X (SF3766) from Context 8 in Stratum II(a) inside Structure 8 is, perhaps, particularly telling. There is no sign that the abandonment was unduly precipitate or accompanied by violent destruction. Indeed, the fact that the capping stone was carefully placed over the wellhead in Structure 5 suggests not only that the inhabitants made an orderly withdrawal from the site but also that some may even have hoped to return to Amorium at a future date. The Byzantine disaster at Manzikert in 1071, however, heralded a long period of unsettled and insecure conditions in central Anatolia that precluded a return to normal life at Amorium. Neither in Trench XC nor in any other part of the site has any evidence been found for later (12th century) Byzantine occupation.

Stratum I

This represents the first layers of topsoil, disturbed probably through agricultural activity, as well as by the use of the enclosure for pasturage and passage until modern times. No post-Byzantine structures or installations were found, although ancient building stones, parts of architectural elements, and scattered pottery, glass fragments, and bones were mixed in the topsoil. The only significant object from this stratum was an eighteenth-century Ottoman silver coin (SF3762, from Context 04 in Trench XC), but no other objects from the Turkish period(s) were encountered, reinforcing the impression gained from the excavation of Trench XA/XB in 1996 that the enclosure was not occupied after the late eleventh century.[43]

[42] An elderly villager is recorded as saying that not so many years ago the interior of the enclosure contained a number of upstanding blocks of masonry. He was able to point to some large limestone blocks, lying beside the modern track near the Lower City Church, which had been removed from the enclosure in order to make the ground there more suitable for plowing. Sadly, it has as yet proved impossible to trace any photographs of the site taken in the first half of the 20th century that might have shown how substantial the standing ruins of Amorium were less than 50–60 years ago. However, the villager's testimony goes some way to prove the hypothesis that the upper layers of fill in Trenches XC and XBC were deposited deliberately in order to turn the area into a viable piece of agricultural land.

[43] *DOP* 52 (1998): 327–28, 331–32, and 335.

Trenches XC and XBC: Summary of the Finds

Substantial amounts of pottery, glass, and animal bone were recovered, but most of this material has undergone only preliminary processing. The majority of the pottery shards may be attributed to the latest, tenth- and eleventh-century phases, containing a large amount of mixed fill, although several deeper contexts produced earlier material where the assemblages were less disturbed and more consistent. This was particularly noticeable with the glass finds, many of which were recovered as large fragments.[44] In addition, an intact miniature perfume bottle was found in the industrial ashy surface of Stratum III (Context 76). Lamp fragments from Trench XC totaled twenty-seven, of which eighteen were mold-made and nine wheelmade. A further three wheelmade fragments were found in the subsoil of Trench XBC. The latter type has been found elsewhere across the site, usually associated with middle Byzantine contexts, whereas the mold-made examples probably date no later than the mid-seventh century.[45] The domestic animals identified from the bones were sheep and/or goats, cattle, chickens, and, less frequently, dogs.[46] The remains of horses, donkeys, domesticated pigs, and cats are also probably among the finds. Several wild boar tusks were recovered, indicating that hunting was both a popular pastime and an important supplement to the diet in middle Byzantine times. A few scattered fish bones were found near the Stratum III pit (Context 23).[47] Bronze and copper objects were usually found in a broken state and were difficult to identify; one remarkable exception was a copper alloy earring (Fig. K) that was recovered in excellent condition from Trench XBC.[48] Iron nails of various types and sizes were found in abundance, probably representing all that remains of wooden planks and timbers used for a variety of purposes. Of the sixteen coins recovered from Trench XC, two date to the eleventh century, one to the tenth, two to the ninth (both are folles of Theophilos), and seven belong to the seventh century. Three remain unidentified, while the final coin is the Ottoman stray mentioned above. In addition, two anonymous folles were recovered from Trench XBC. An intriguing but small group of finds is made up of shells, including six examples of freshwater bivalve shells and two Mediterranean murex shells (from Contexts 11 and 68).[49] Another murex shell was recovered in 1996 from Trench XA, immediately outside the enclosure.[50] It is unclear to what use the murex examples were put at Amorium, but it would

[44] Margaret Gill, while working on the final report on the glass finds for 1993–97, made a preliminary inspection of the glass found in 1998, as a result of which she prepared a brief report on selected items. It is hoped that the rest of the material will be studied during the 2000 season by Yrd. Doç. Dr. Yelda Olcay of the Dept. of Art History, University of Anatolia, Eskişehir.

[45] No fewer than nine moldmade examples came from a single layer (Context 91), excavated at the level of the interior foundations of Structure 2. One of these (SF3878) may be identified as part of the discus and shoulder of a lamp of Type XXII; compare D. M. Bailey, *A Catalogue of the Lamps in the British Museum,* vol. 3. *Roman Provincial Lamps* (London, 1988), 399, no. Q3232 (quoting another example recorded from Phrygia by Haspels; see C. H. E. Haspels, *Phrygie. Exploration archéologique,* vol. 3. *La cité de Midas. Céramique et trouvailles diverses* (Paris, 1951), 8, 15, 87, and pl. 36,c,4). Likewise, two handle fragments (SF3771 and SF3809) from contexts immediately outside W14 of Structure 2 are clearly recognizable as belonging to the same type; compare Bailey, *Provincial Lamps,* 399, no. Q3231 and pl. 115; J. W. Hayes, *Excavations at Saraçhane in Istanbul,* vol. 2. *The Pottery* (Princeton, N.J, 1992), 87–88, nos. 89–94 and pl. 23. Bailey regarded such lamps as products of the Balkans, where many examples have indeed been recorded. However, Hayes has shown that they are also commonly found at Constantinople, and it may only be our lack of published examples from Asia Minor that has given an unbalanced view of the distribution of this type of lamp. Indeed, Hayes associated it (his Type 11) with a class of "Asia Minor" lamps with similar handle treatment; see Hayes, *Saraçhane,* 83 and footnote 25.

[46] The presence of large dogs at Amorium is also attested by paw marks left on bricks before they were fired; see, e.g., bricks B012, B124, B157, B158, B193, B210, and B215, recorded in 1997, and *DOP* 53 (1999): 345.

[47] These presumably belong to freshwater fish. It is still possible to obtain fish from the small nearby lake at Pınarbaşı, one of the headwaters of the Sangarios River, and cooked fish is a regular item on the menu in the cafe-cum-teahouse in Hamzahacili.

[48] AM98/XBC02/SF3896; max. dimensions 4.6 cm and 3.6 cm. Simple hoop of wire, circular in section, with a hook at one end and a loop at the other. Around part of the ring is woven another fine wire in an intricate pattern of small loops. Several similar earrings have been found at Corinth and dated to the 11th–12th centuries; see G. R. Davidson, *Corinth XII. The Minor Objects* (Princeton, N.J., 1952), 250, 252–53, nos. 2025–29 and pl. 108 (with refs.).

[49] AM98/XC11/SF3801: water-worn columella of *Murex trunculus,* L. 3.44 cm; AM98/XC68/SF3799: *Murex brandaris,* L. 5.25 cm. These identifications have been kindly made, based on digital images, by Dr. David S. Reese of the Field Museum of Natural History, Chicago. The project gratefully acknowledges Dr. Reese's assistance.

[50] AM96/XA18/SF3685: intact *Murex brandaris* L. 6.30 cm.

seem that they were brought to the site all the way from the Mediterranean coast during Byzantine times.[51]

General Conclusion

The picture that has emerged from the excavations in Trenches XC and XBC shows that the area of the Lower City enclosure was occupied throughout the Byzantine period and that, although the nature of the occupation changed radically over time, it remained an integral and vigorous part of the site. There is little evidence for any burned destruction layers in the strata that have been exposed. The abandonment of Stratum II appears to have been gradual and peaceful, exemplified by the subsequent discovery of a well in the northeast area of Trench XC that seems to have been deliberately covered over, so that even today it remains serviceable. This last phase of occupation contains largely domestic buildings and other installations that made much use of earlier surviving structures and materials. It may reflect the gradual "ruralization" of the Lower City, since in middle Byzantine times the only city walls that existed were those surrounding the Upper City mound.

Before the privatization of the area in the eleventh century there comes an intermediate stage, Stratum III, characterized by several small-scale industrial operations. The public buildings of Stratum IV were taken over by, or even sold off to, craftsmen engaged in manufacturing a variety of goods. It may be that they worked under state supervision, using buildings that were still owned by the state but that were now "surplus to requirements." Certainly, it is hard to believe that the conversion of the principal structures within the Lower City enclosure was carried out without the permission or acquiescence of the imperial authorities.

The main occupational phase belongs to Stratum IV, which has been placed in the period before the construction of the enclosure wall. The buildings associated with this phase are impressive, substantial, and extensive. The new Structures 2 and 3 form part of a planned and integrated complex, incorporating the preexisting Structure 1, and it is clear that considerable care was taken in their construction and decoration. The lack of debris associated with these structures in Stratum IV suggests that they were not abandoned but rather reoccupied and subsequently evacuated in an orderly manner. The excavation in 1996 of part of the fortification wall surrounding the enclosure led to the proposal that the area served a military purpose in the middle Byzantine period. In the light of the evidence obtained from the excavation of Trench XC, this view can now be refined. The enclosure may originally have been constructed by (or for) the military and used as the headquarters of the army of Anatolikon theme during the late ninth and early tenth centuries. The decline in importance of the theme armies during the second half of the tenth century may be reflected at Amorium in the conversion of the buildings in the enclosure to other purposes at that time.

Glass Finds (by M. A. V. Gill)

For the most part, glass finds from Amorium are small fragments. In the course of ten years of excavation (1988–96 and 1998), only two intact vessels have been unearthed, both small perfume bottles of almost identical shape, one from immediately outside the Lower City walls (AM90/Trench AB Fosse Context 25), the other from this season's excavation in the enclosure at the center of the Lower City (No. 4, below). However, the glass vessel fragments recovered in 1998 from the new trench are tending to be larger, giving a clearer idea of their original forms, and significant amounts of window glass were found. The condition of these finds indicates that the contexts are less disturbed than those excavated in other trenches in previous years. A similar picture emerges from the

[51] On present evidence, most such finds are concentrated in the area of the Lower City enclosure, but one bivalve shell (SF3681), probably a freshwater variety, has been found in Trench UU on the Upper City mound. For other examples of shells found in central Anatolia, see Haspels, *Phrygie*, 3:101, pl. 43,b.1; P. Gries, "Shells," in H. H. von der Osten, *The Alishar Hüyük Seasons of 1930–1932, Part III* (Chicago, 1937), 324–27 (including examples from Byzantine layers); D. S. Reese, "Shells at Aphrodisias," in M. S. Joukowsky, *Prehistoric Aphrodisias: An Account of the Excavations and Artifact Studies*, vol. 1 (Providence, R.I.-Louvain-la-Neuve, 1986), 193–94 (examples found in Hittite to Roman-Byzantine levels).

preliminary survey of the pottery, which appears more homogeneous and stratigraphically distinct than previously encountered.

Selected Finds: Vessels

1. Fragment from bowl of narrow conical wineglass. Side straight, flaring; remains of bulb at top of hollow stem and pushed-in base. Greenish colorless (Fig. L/1). Belongs to a vessel with an unusually narrow bowl. Probable height: 3.2 cm. AM98/Trench XC Context 91.
2. Fragment from neck of bottle. Rim folded in, mouth flaring from cylindrical neck. Bluish green colorless (Fig. L/2). Thin-walled vessel. Probable height: 2.1 cm; estimated diameter: 3.5 cm. AM98/Trench XC Context 91.
3. Fragment from neck of bottle. Rim folded in; neck funnel-shaped with slight flare at bottom. Fine self trail loosely spiraling round neck. Colorless (Fig. L/3). Thin-walled vessel. Probable height: 4.7 cm; est. diameter: 3.0 cm. AM98/Trench XC Context 73.
4. Miniature lentoid bottle, intact. Rim turned in, outsplayed lip; cylindrical neck merging into flattened oval body with base snapped off at angle from pontil. Greenish blue colorless (Fig. L/4). Height: 4.1 cm; width: 1.2 cm. AM98/Trench XC Context 76/Kazi Env. 33 (Afyon Museum).
5. Two fragments from lower part of a small bottle. Concave base with kick and remains of pontil wad; side convex. Bluish green (Fig. L/5). Small but heavy base, possibly from the globular body of a perfume bottle. Probable height: 2.55 cm; est. diameter: 4.0 cm. AM98/Trench LC6 Context 19.

Glass Beads and Bracelets

As in previous seasons, the site continues to produce a comparatively large number of glass bracelet fragments but few glass beads (Fig. M). Among the latter, however, are three of particular interest: one complete (No. 1) and two fragmentary from the same context and clearly belonging together. Made from a coil wound spirally around a rod and flattened front and back, each has a longitudinal perforation in which are traces of corroded copper. In the complete bead there is a greater concentration of corrosion at the wider end, suggesting that the three beads were individually hung on copper wire knotted at the bottom and suspended as a group with the largest bead between the two smaller ones forming a pendant either for a necklace or, more probably, an earring.

Of the eighty-two glass bracelet fragments found, twenty-five were decorated: six with spiral twist, two with inlaid thread, and seventeen with painted patterns. The simple cable pattern on No. 5 was painted as two interlocking wavy lines, in general appearance resembling the cable on a bracelet from Trench L (F1088), although this was formed differently from a series of short scallops. On the latter bracelet the cable pattern is combined with diagonal hatching and is interrupted by a round medallion containing a "Maltese" cross. Possibly the new bracelet had a similar device at its center. The cross on No. 6 was formed in exactly the same way as that on F1088. Much of the design has been destroyed by weathering, but touches of paint further along the band indicate that the original pattern was of oval medallions framing alternately a "Maltese" cross or a cross-hatched oval. Alternating devices is a common principle of decoration on Byzantine bracelets. It occurs again on No. 7, where alternate ovals are filled with spirals, while the intervening one has apparently been left blank. This probably was intentional, but possibly it was painted with a more fugitive color that has now completely disappeared. The spiral on this bracelet with its tight coil and solid dot in the center closely resembles the spiral on another bracelet from Trench L (F785), which is one of a group of bracelets painted by the same craftsman on which spirals alternate with "St. Andrew's" crosses with quirks between the arms.

The "St. Andrew's" cross of different form and painted by a different hand appears on No. 8. The work of this craftsman is characterized by the use of more unusually shaped rods—grooved forms, either with a single broad groove with ridges on either side, or

with two grooves that form flanges on either side of a central ridge. In each case the surface for decoration is divided into three registers, painted with simple elements mainly in gold. Three other fragments by the same craftsman were found this year (and two in earlier seasons). On one, from Trench XC Context 12, the gold hatching is interrupted by a red "St. Andrew's" cross with gold dots between the arms. The other two, from the same trench (Context 40), are nonjoining fragments, seemingly from the same bracelet; in one place the hatching is interrupted by a gold spiral, in another by marks resembling a percentage sign that may be all that remains of a cross with quirks.

The decoration on No. 9 is well preserved and equally distinctive, so distinctive that three bracelets from earlier seasons (B5, B186, and B667) can confidently be attributed to the same hand. The signature of this craftsman seems to be the division of the band into contrasting panels separated by triple cross-lines; in one panel the patterns are purely abstract, basically wavy lines bordered by rows of dots with the reserve areas as much a part of the design as the painted, while the adjacent panel is more open, with a single motif standing out from the reserve background. The extensive use of silver, now tarnished black, gives No. 10 an unusual appearance, but the disposition of the rows of beaded and scalloped bands and dots suggests that it was also painted by the master craftsman of No. 9.

Also probably the work of one man are Nos. 11 and 12; and no fewer than ten other bracelets from earlier seasons show such similarities of style and design that, if not from the same hand, they are certainly from the same workshop. The majority of these display the same form of scrolling sprigs with tendrils, and some have a framework of dotted lozenge-shaped medallions, all finely painted. However, there are one or two bracelets that seem related to this group, where the painting is cruder and the patterns seem to disintegrate. One such is No. 13, with its sketchy, hesitant painting, like a poor imitation of the finer pieces.

The identification of painted bracelets belonging to the same workshop is an important piece of evidence for the cross-dating of the contexts in which they were found. The contemporaneity of various bracelets may also be taken as evidence for the popularity of this type of personal jewelry at a specific time in the middle Byzantine period. Certain craftsmen clearly exploited the fashion to produce large numbers of painted glass bracelets, and their products found a receptive market at Amorium. The presence of several bracelets painted by the same hand, however, could be interpreted in two ways, either to suggest that they were made by local craftsmen or to support the view that they were brought to Amorium from a production center farther afield in batches from the same workshop(s). If the latter is the case, it should be possible to recognize at other sites (such as Yumuktepe, near Mersin) examples of the work produced by these painters.[52] It would also imply that the industry was well organized with an effective distribution system. The painted bracelets, with their rich and intricate ornamentation, often including gold and silver, were obviously purchased by the more affluent members of society, but it remains unclear how these items fitted into the hierarchy of Byzantine jewelry and why glass bracelets with their fragility and ephemeral nature proved so popular. Unlike metal jewelry (gold and silver bracelets are, of course, still used in certain societies as forms of disposable wealth), they had no trade-in value and had to be discarded once broken.

Selected Finds: Beads and Bracelets

1. Bead. Elongated drop; oval cross section, with longitudinal perforation. Light blue (Fig. M/1). Length: 1.7 cm; width: 0.65 cm; thickness: 0.5 cm; perforation: 0.1 cm. AM98/Trench XC Context 48 (found with fragments of two similar beads: P. L. 1.0 and 1.9 cm respectively).

[52] See G. Köroğlu, "1993–1996 Kazı Çalışmaları Işğında Ortaçağ'da Yumuktepe," *Ege Üniversitesi Sanat Tarihi Dergisi* 9 (1998): 59–73. The excavations at Yumuktepe, directed by Prof. Dr. Veli Sevin, have produced more than five hundred bracelet fragments, most of which are painted. They were found in well-preserved Byzantine building layers, dated by means of pottery and coins to the 11th–12th centuries; see O. Tekin, "Byzantine Coins from Yumuk Tepe including a Lead Seal," *Anatolica Antiqua* 6 (1998): 273–78 (of the eighteen Byzantine coins found, sixteen have been identified as anonymous or signed folles).

2. Fragment of bead. Cylindrical beaded, in seven segments; round cross section with longitudinal perforation. Colorless (Fig. M/2). Probable length: 2.4 cm; diameter: 0.6 cm; perforation: 0.2–0.25 cm. AM98/Trench XC Context 07.
3. Fragment of bead. Beaded with two globular segments; cross section round with longitudinal perforation. Dark blue (Fig. M/3). Probable length: 0.85 cm; diameter: 0.7 cm; perforation: 0.15 cm. AM98/Trench LC Context 14.
4. Fragment of ring. Circlet slightly oval; cross section semicircular. Greenish yellow (Fig. M/4). Probable length: 2.7 cm; width: 0.8 cm; thickness: 0.5 cm; est. diameter: 3.0 cm. AM98/Trench XBC Context 05.
5. Fragment of bracelet. Cross section semicircular, with overlapping join at one end. Light blue (Fig. M/5). Painted decoration in creamy yellow: cable pattern along center. Probable length: 4.8 cm; width: 1.1 cm; thickness: 0.45 cm; estimated diameter (not a true circle): 4.5 cm. AM98/Unstratified from Trench TT or UU.
6. Fragment of bracelet. Cross section semicircular. Green (Fig. M/6). Painted decoration in creamy white and red: remains of two oval medallions in white, one containing a white "Maltese" cross, the other a red crosshatched oval. Surface considerably weathered. Probable length: 5.4 cm; width: 1.1 cm; thickness: 0.55 cm; estimated diameter: 7.0 cm. AM98/Surface find from Upper City.
7. Fragment of bracelet. Cross section semicircular; pontil scar. Light blue (Fig. M/7). Painted decoration in creamy yellow: remains of three oval medallions, two filled with compact spirals, the third apparently blank. Some of surface flaked. Probable length: 3.5 cm; width: 1.0 cm; thickness: 0.5 cm; estimated diameter: 7.0 cm. AM98/Unstratified from Trench TT or UU.
8. Fragment of bracelet. Cross section grooved: broad central groove with broad ridges either side. Dark blue (Fig. M/8). Painted decoration in gold and yellow: zigzag line along groove and series of diagonal hatches along ridges either side in gold, interrupted by remains of a yellow "St. Andrew's" cross. Surface heavily weathered. Probable length: 3.2 cm; width: 1.8 cm; thickness: 0.5 cm; estimated diameter: 7.0 cm. AM98/Trench XC Context 36.
9. Fragment of bracelet. Cross section oval. Greenish blue (Fig. M/9). Painted decoration in creamy white: thick border lines either side, with triple cross-lines dividing center into panels; long panel filled with beaded pattern along center and wavy line edged with dots either side; shorter panel containing bird standing in profile to right, with wing displayed. Probable length: 5.4 cm; width: 0.95 cm; thickness: 0.75 cm; estimated diameter: 8.5 cm. AM98/Trench XC Context 34.
10. Fragment of bracelet. Cross section semicircular. Light blue (Fig. M/10). Painted decoration in silver and scallop-edged band with row of dots in uncertain color. Surface weathered and flaked. Probable length: 2.5 cm; width: 0.95 cm; thickness: 0.5 cm; estimated diameter: 8.0 cm. AM98/Trench XBC Context 05.
11. Fragment of bracelet. Cross section rectangular. Bluish green (Fig. M/11). Painted decoration in creamy white: curvilinear pattern of spiral sprigs with tendrils, standing bird in profile to right, and double end-line. Probable length: 2.7 cm; width: 1.2 cm; thickness: 0.5 cm; estimated diameter: 7.0 cm. AM98/Unstratified from Trench TT or UU.
12. Fragment of bracelet. Cross section oval, slightly tapering. Bright blue (Fig. M/12). Painted decoration in creamy white: part of running "vine" pattern, with curving stem from which spirals a branching sprig with tendrils and parts of two further sprigs. Part of design smeared. Probable length: 3.2 cm; width: 0.8 cm; thickness: 0.7 cm; estimated diameter: 8.0 cm. AM98/Trench XC Context 11.
13. Fragment of bracelet. Cross section oval, with inside groove; pontil scar and fragment of wad at one end. Greenish blue (Fig. M/13). Painted decoration in creamy

white: cone-shaped cartouche containing scrolling sprig and parts of two others separated by single or double cross-lines. Design partly obscured by enamel weathering. Probable length: 5.7 cm; width: 0.7 cm; thickness: 0.55 cm; estimated diameter: 7.5 cm. AM98/Trench XBC Context 05.

Conclusion

A great deal remains to be done with regard to the results obtained during the 1998 season. Much of the material has yet to be processed and analyzed, while the various finds have to be assessed in the light of their stratigraphic groupings and contexts. Nevertheless, some important advances in our understanding of the site have already been made. First, the discovery of the tomb in the narthex of the Lower City Church provided confirmation that the major Phase 2 reconstruction took place at some point before ca. 963 and probably after 838. Subsequent minor alterations and repairs to the building, including the redecoration of the walls, may thus be attributed to the eleventh century. The existence of the tomb also underlines the continued importance of the church during the middle Byzantine period. Other tombs may still await discovery in other parts of the building.

Second, the recovery of a sizable group of pottery from a sealed context associated with the sudden destruction of buildings behind the Lower City walls is a significant development in the study of the Byzantine pottery at Amorium. The dating of the destruction layer to the year 838, although it is at present provisional, may allow us to refine our views on the pottery shapes and fabrics used in the late eighth and early ninth centuries. The assemblage certainly provides good evidence for a stage in the development of Byzantine common wares that was until now poorly known. Likewise, it is now possible to add a further stage to the sequence of occupation in the area immediately behind the fortifications. Previously it had been thought that this area had been left as an open space, or *cordon sanitaire,* separating the city walls from the area of domestic occupation, at least while the defenses remained intact and manned by soldiers of the city garrison. It is now clear, however, that prior to 838 buildings stood immediately behind the city walls and that these suffered destruction along with the fortifications themselves. This evidence may have important implications for estimating the density and extent of occupation within the Lower City walls during the dark ages.

Finally, by the very complexity of its stratigraphy and sequence of building phases, the new trench in the enclosure demonstrates that the Lower City area was occupied, at least in part, throughout the Byzantine period. After the disaster of 838 Amorium is only mentioned infrequently in the surviving literary sources.[53] This silence has led one scholar to conclude in a recent publication that "after Ancyra and Amorium were sacked by the Arabs in 838, Amorium never fully recovered, though Ancyra regained much of its importance as a trading center after some rebuilding by Michael III."[54] The archaeological evidence from the Lower City enclosure alone shows this statement to be wide of the mark and demonstrates that the excavations can provide valuable new insights into the life of the city. It is clear, for example, that some buildings (such as Structure 1) remained in use for a very long time, even if they underwent substantial alterations and were put to a variety of different uses. The other two major buildings in Stratum IV (Structure 2 and 3) and the open areas between them remained in use until the Byzantine settlement was abandoned in the late eleventh century. The excavation of Trenches XC and XBC also confirmed the findings from the work in Trench XA/XB in 1996, which showed that the enclosure was not reoccupied in the Turkish period and was subsequently turned over to agricultural use, perhaps only after the modern village of Hisarköy was founded in 1892.

The season's work at Amorium was therefore very fruitful. As well as excavation, considerable progress was made on conservation, especially in the Lower City Church. While the processing of finds continued, including the conversion of existing written records for sev-

[53] For references, see K. Belke, *Tabula Imperii Byzantini,* vol. 4. *Galatien und Lykaonien* (Vienna, 1984), 122–25.

[54] W. Treadgold, *A History of the Byzantine State and Society* (Stanford, 1997), 573.

eral large groups of finds into a growing computer database, 1998 was also marked by two technical advances at Amorium: the use of the local telephone line to connect the project directly to e-mail and the worldwide web, and the successful introduction of digital photography, which enabled us both to create a new archive and to produce on-site illustrated reports and catalogues.[55] The future thus looks promising, as Amorium continues to make important contributions to our knowledge of the nature of Byzantine urban settlement.

Ankara, April 1999

Postscript

In the early part of 2000 the Carbon-14 results from two ash samples taken during the 1998 season were received.[56] Although they do not provide dates that match exactly the conclusions drawn in the above discussion of the stratigraphy and finds, it was felt important to publish these results. Sample 1 (AMO-117) was excavated on 23 July 1998 in Trench LC6, Context 19 (the destruction layer; see above, p. 376), and comprised a group of small fragments of carbonized oak (*Quercus sp.*) with a maximum of only ten annual growth rings. It provided a conventional C-14 age of 1269±22 BP. The calendar calibrated results at 1 sigma give a date of 690–780 and at 2 sigma of 680–780.[57] Sample 2 (AMO-116) was collected on 1 August 1998 from Trench XC, Context 87 within Structure 2 (see above, p. 377). This sample, too, was made up of carbonized oak fragments, which provided a conventional C-14 age of 1438±17 BP. This translates into a calendar calibrated date of 605–645 at 1 sigma and 600–660 at 2 sigma. The two samples may therefore be taken to confirm in general terms the dating sequences within Trenches LC6 and XC.

Editors' Note

This report was prepared in advance of the 2000 season, the results from which may cause some of the conclusions drawn here to be modified. So, for example, Yalçin Mergen kindly checked some of the work carried out in Trench XC and prepared a new section drawing of the balk within Structure 2 (Fig. J). His efforts revealed the existence within Structure 2 of two earth floor surfaces that had not been apparent in 1998 (see above, p. 381).

New York, November 2000

[55] In addition, certain practical improvements were made to the Dig House compound. The kitchen was enlarged and provided with a new tiled roof, while new spacious shelving was added to the largest of the three depots, thereby freeing up room for yet more carved stone fragments.

[56] We are grateful to Professor Peter Kuniholm and the staff at the Malcolm and Carolyn Wiener Laboratory for Aegean and Near Eastern Dendrochronology, Dept. of the History of Art and Archaeology, Cornell University, Ithaca, N.Y., for their assistance, and especially to Dr. Bernd Kromer, director of the Radiometrische Altersbestimmung von Wasser und Sedimenten, Institut für Umweltphysik der Universität, Heidelberger Akademie der Wissenschaften, Heidelberg, Germany, for processing the samples.

[57] Calibrated using INTCAL98 and CALIB4 (Stuiver, Reimer, and Braziunas, Radiocarbon 40, 1127–51, 1998).